HOW GOALS AFFECT CONSUMER CHOICE

KRISTOF GESKENS

2014

Advisors:

Prof. Dr. Maggie Geuens
Prof. Dr. Bert Weijters
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Submitted at Ghent University, Faculty of Economics and Business Administration
In partial fulfillment of the requirements for the Degree of Doctor in Applied Economics

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Kristof Geskens

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INTRODUCTION

"People don't want to buy a quarter-inch drill. They want a quarter-inch hole!"

Theodore Levitt (in Christensen, Cook, and Hall 2005, p. 76)

1.1 INTRODUCTION: CONSUMER GOALS AND ASSORTMENT ORGANIZATION

An important decision that retailers and brand manufacturers face involves how to structure and present their assortment to consumers. This entails deciding whether and how to organize the items within the given assortment. Traditionally, most assortments are organized in product categories with each product category further divided into subcategories. To illustrate, a typical supermarket is organized such that all items in the assortment are grouped by product category (beverages, fruit, cereal, etc.) and, within those categories, available items are further displayed by product type, brand, or taste. Since such organizations are based on physical similarities among products, they might help guide consumers to those items they are looking for

(Broniarczyk 2008). Furthermore, such organizations are commonplace in many markets and thus most familiar to consumers (Poynor and Wood 2010).

Product categories also reflect the taxonomic categories people use to make sense of their environment (Loken, Barsalou, and Joiner 2008; Rosch and Mervis 1975). When individuals encounter an object or person they tend to assign these to certain categories or groups (Rosch 1978) based on their physical resemblance with other members of those categories (Loken and Ward 1990). Since similarity underlies taxonomic category membership, such categories maximize within-category similarity while minimizing between-category similarities (Rosch 1978). This allows people to efficiently navigate the world by simplifying and organizing it. To illustrate, an object will be classified as a dog if it has the features of a typical dog; if it has four legs, a tail and if it barks. Thus, members of a single taxonomic category share many attributes and features with each other, and much less with members of other taxonomic categories such as birds (Felcher, Malaviya, and McGill 2001).

In line with this taxonomic category view, consumer choice theories have long taken a multi-attribute perspective (Bettman, Capon, and Lutz 1975; Fishbein 1963). This view contends that consumers value objects for their attributes such that the overall utility of an object equals the sum of the utilities of each attribute, and that consumers compare objects on their overall utility when making a choice (Green and Srinivasan 1978; Johnson 1974; Van Osselaer and Janiszewski 2012). Thus, since this widely used view on consumer choice puts great emphasis on attributes per se, it appears to make perfect sense to organize assortments by attributes, i.e., taxonomically. Indeed, if choosing from an assortment is in essence about finding those products with the right attributes and comparing them with each other on overall utility, assortment organizations that group together items based on attribute similarity should act as a filtering tool that significantly reduces searching costs and facilitates decision making.

Despite its dominant position, many researchers have raised issues about the assumptions underlying multi-attribute choice theories (Van Osselaer and Janiszewski 2012; Van Osselaer et al. 2005). To illustrate, utility models generally assume that consumers have fixed attribute preferences and that these preferences are stable across contexts. Yet, abundant research has shown that preferences are not stable but highly context-dependent (Huber, Payne, and Puto 1982; Tversky and Kahneman 1981). This has led to an emerging view of consumer choice as a goal-driven activity (Carlson et al. 2008; Drolet, Luce, and Simonson 2009; Van Osselaer and Janiszewski 2012; Van Osselaer et al. 2005).

Goal-based theories of evaluation and choice propound that consumers do not buy products for their attributes as such, but for the benefits they offer for fulfilling certain goals (Van Osselaer et al. 2005). Note that this view does not disregard the importance of attributes. It simply considers the value of attributes (as well as specific combinations of attributes) in relation to their ability to provide the specific benefits that are sought by consumers to satisfy their active goals. A goal can be defined as “a desired direction or state that guides behavior” (Carlson et al. 2008, p. 242). In this view, products – but also behaviors and services – are means to achieve those positive end states (Van Osselaer and Janiszewski 2012). Thus, depending on which

goal(s) consumers pursue, different types of product benefits will be more important for them. In other words, activating a goal in memory leads consumers to constructively reevaluate products based on their expected instrumentality for achieving that goal.

An interesting parallel can be found between this view on consumer choice as a goal-directed process and the context of this dissertation: retail assortments. In particular, to better reflect consumers' decision making processes, many retailers and brand manufacturers have recently started to experiment with assortment organizations based on goals rather than on taxonomic product categories (Poynor and Wood 2010). Whereas in taxonomic product categories the items are grouped based on their shared attributes such as product type, brand, flavor, or size, goal-based assortments call for grouping together items based on their ability to serve a specific goal (Chernev 2012; Poynor Lamberton and Diehl 2013b). Such an organization implies that physically very dissimilar products (i.e., from different product categories) might be placed within the same goal-based category, provided they are all instrumental for attaining that goal.

FIGURE 1.1 GOAL-BASED WINE ASSORTMENT AT BELGIAN RETAILER DELHAIZE

Such goal-based assortment organization is prominent in retailers' widespread use of 'diet corners' which group products from different product categories that all serve a dieting goal. Poynor and Wood (2010) give the example of how *Hertz* moved from a traditional taxonomic organization of their cars (sedan, truck) to a

goal-based one (green, fun, luxury). A 'Green' car category might then include fairly diverse product types (sedan, SUV, etc.) as long as they offer benefits such as low carbon emissions and great fuel economy. *Delhaize*, a leading food retailer headquartered in Belgium, decided to organize a subset of its wine offer in a goal-based rather than taxonomic way. In particular, this retailer displays its wines not by country-of-origin or by type of grape (i.e., taxonomic) but by 'food pairing', thus the dish with which a wine is ideally paired (i.e., goal-based). By doing this, *Delhaize* uses assortment organization as a decision aid tool that directly maps onto shoppers' goals for buying wine: to drink with 'red meat', 'poultry', 'fish', etc. (see Figure 1.1). Also brand manufacturers are starting to organize their product assortment by goals rather than attributes. *Soubry*, a Belgian pasta brand, has added subcategories to its assortment that are specifically targeted at the goals of 'quick' cooking (e.g., spaghetti with a more hollow structure for shorter cooking time) and 'sport' (e.g., spaghetti enriched with extra carbohydrates for more energy).

Despite their intuitive appeal, research on goal-based assortment organizations is very sparse. The bulk of research on the relationship between assortment organization and consumer evaluation and choice has mostly considered taxonomic types of organization (e.g., Hoch, Bradlow, and Wansink 1999; Kahn and Wansink 2004; Mogilner, Rudnick, and Iyengar 2008). In fact, only one paper, recently published by Poynor Lamberton and Diehl (2013), addresses the link between goal-based assortments and consumers' evaluation of the assortment and the items it comprises. This gap in literature is troublesome given the emerging importance of goals and goal-based choice in academic research as well as in industry practice. The current dissertation aims to further our knowledge about how and when goal-based assortments affect consumer behavior.

The remainder of this chapter is organized as follows. The following three sections review the most important findings of the literature streams from which this dissertation draws: goal-based choice (1.2), consumer goals (1.3), and categorization theory and assortments (1.4). Next, we give an overview of the different studies reported in this dissertation (1.5) and conclude with a section on how to read this dissertation (1.6).

1.2 Choice Based on Goals

"Buyers, including consumer buyers, come into the market to solve their problems."

Alderson (1952, p. 120)

The leanest manufacturing, the best products, the most qualified sales force, the keenest distribution channels, or the best price, will all serve to nothing if ultimately the consumer decides not to choose your product. Therefore, the way consumers evaluate and choose products is a central topic in marketing research (e.g., Beckwith and Lehmann 1975; Fishbein and Ajzen 1975; Payne, Bettman, and Johnson 1993; Simonson 1989; Van Osselaer and Janiszewski 2012).

Within the vast literature on consumer behavior, different views exist on how consumers make choices. Traditionally, consumer choice studies have taken a multi-attribute utility perspective (Kahn and Meyer 1991). According to this view, consumers compare different choice options and ultimately choose for the option with the highest utility. For example, a consumer who is in the market for a new laptop, will look at the various features of each laptop in the assortment (e.g., PCU speed, memory, graphical card, weight, and price). Then she will look for the laptop that offers that bundle of features with the highest utility, and ultimately choose that one. This view inherently assumes that the utility of attributes and consumers' preferences are fixed (Carlson et al. 2008).

Increasing evidence, however, draws attention to the pivotal role that goals and choice contexts play in our daily lives (Dhar, Nowlis, and Sherman 2000; Lee and Ariely 2006). Also Tversky and Kahneman (1991) point out that the utility of specific attributes or attribute levels is not fixed, but highly context-dependent. Over half a century ago, Alderson (1952, p. 120) argued that 'buyers, including consumer buyers, come into the market to solve their problems'. This view of consumer choice was fundamentally focused on the goals toward which consumers strive and the processes they undergo to attain these goals (Ratneshwar, Mick, and Huffman 2000).

Indeed, much of consumer decision making takes place in the context of pursuing goals (Lawson 1997). According to this emerging goal-based view consumers choose products for the benefits they afford, not for the attributes that comprise the product (Van Osselaer and Janiszewski 2012; Van Osselaer et al. 2005). This perspective implies that an object is valued to the extent that it is perceived as instrumental to satisfying an active goal (Brendl, Markman, and Messner 2003). If we go back to our laptop example, this would mean that the value of each feature depends on the goal of the consumer. A consumer who will primarily use the laptop during travel would attribute more importance to the feature of weight or size when making a choice. Another consumer, whose main goal is gaming, would be more interested in the laptop with the highest CPU speed and best graphical card. Which choice option has the highest utility can therefore change substantially, depending on the specific goal of the consumer.

Despite the central role of goals in consumer behavior (Aarts and Dijksterhuis 2000; Chartrand et al. 2008; Dhar and Simonson 1999; Fischer et al. 1999; Higgins 1997; Markman and Brendl 2000; Shah and Kruglanski 2003), much of consumer decision research has not directly considered consumers' goals and motivations when choosing among alternatives (Fishbach and Dhar 2007). Recently, however, researchers have started to emphasize the central role of goals in decision making by examining their impact from many different points of view.

One stream of literature focuses on how consumers manage the pursuit of multiple, conflicting goals across sequential decisions or choices. The focus of that research is on how the pursuit of a specific goal in a first choice episode might lead to consistency or inconsistency in goal pursuit in subsequent choices (Huber, Goldsmith, and Mogilner 2008). In this context, Dhar and Simonson (1999) argue that consumers tend to balance two competing goals (e.g., being healthy and enjoying indulgent food) across consecutive consumption decisions such that choosing a healthy entrée stimulates the choice for an indulgent dessert. When the trade-off was between a consumption goal (e.g., pleasure) and a resource (e.g., time or money), an initial choice for consumption goal fulfillment (e.g., ordering an expensive, tasty appetizer) resulted in goal-consistency (e.g., ordering an expensive, tasty entrée) in order to assure goal attainment. Building on these findings, Fishbach and Dhar (2005) show that such goal consistency or inconsistency might depend on whether an initial choice (e.g., choosing a healthy entrée) signals goal progress versus goal commitment. In case of goal progress, consumers tend to resort to goal balancing and pursue a competing goal in subsequent choice (e.g., choosing an indulgent dessert), whereas in case of goal commitment, consumers tend to stick to their initial goal (e.g., choosing a healthy dessert). Later models also incorporate the emotions linked to goal pursuit to explain how goal progress and the expected success or failure of attaining that goal might affect future behavior (Louro, Pieters, and Zeelenberg 2007). Laran and Janiszewski (2009) further demonstrate how a passive goal management system affects which of multiple, conflicting goals consumers might pursue. In particular, these authors propose that an initial behavior or choice (e.g., saying "no" to an indulgent food) increases the activation of a specific goal in consumers' minds (e.g., healthiness), while at the same time inhibit competing goals (e.g., indulge). Such goal inhibition was first demonstrated by Shah, Friedman, and Kruglanski (2002) in tests for the accessibility of goal-related concepts, where they found that activating a certain goal (e.g., academic performance) resulted in faster response times for concepts related to that goal (e.g., "studying") but in slower response times for concepts related to conflicting goals (e.g., "jogging"). As a result of this goal activation and inhibition, the value of means (e.g., items or behaviors) that are instrumental for achieving a goal (e.g., healthy food) will increase and consumers will be more likely to choose these means over others. A passive guidance system might then promote goal consistency as long as the focal goal is still activated in consumers' minds. When, however, consumers feel that they have satisfied this goal, the goal is abandoned and the inhibited, competing goal gets released and becomes active in people's mind, resulting in goal inconsistency in subsequent choices.

A second stream of literature focuses on how consumers try to satisfy multiple goals simultaneously when making a single decision. To illustrate, when choosing a car consumers might want it to be safe, but also

stylish, and fuel efficient (Fishbach and Dhar 2007). Some of these goals might be more important whereas others are less important. As a result, research in this area is concerned with the question whether consumers will opt for a means that best satisfies the most important goal versus a means that serves multiple goals. Thus, when a consumer holds multiple goals, (s)he might opt to commit to one goal first and choose a means that maximizes goal attainment before moving on to the next goal (Dhar and Simonson 1999; Shah, Friedman, and Kruglanski 2002). Another possibility exists, however, in which consumers search for options that satisfy all active goals at the same time (Kopetz et al. 2011; Kruglanski et al. 2013; Orehek et al. 2012). Such "multifinal" means are considered to be more valuable than means that only serve one goal (i.e., "unifinal" means) since they give customers more "bang for the buck" (Kruglanski et al. 2013, p. 2). Nevertheless, while such multifinal means might be perceived as most instrumental for achieving all active goals at once, they might also be perceived as less instrumental for each goal separately compared to unifinal means (Zhang, Fishbach, and Kruglanski 2007). Indeed, because such a multifinal means is associated with multiple goals, the strength of association to each one of those goals might be diluted, resulting in lower perceived instrumentality (Kruglanski et al. 2013; Orehek et al. 2012; Zhang, Fishbach, and Kruglanski 2007). Recent goal research even suggests that unconscious goals that operate in the background might interfere with people's focal and deliberate goal when making a single choice (Chun et al. 2011), making also these presumably conscious, single-goal choices multifinal to some extent.

A third stream of goals literature focuses on a situation in which consumers have a single, active goal and make a single choice from the available means to satisfy that goal. Whereas earlier choice studies focused on the role of attributes and attribute levels in explaining choice, goal-based choice models contend that consumers' choices are driven by goals rather than attributes (Van Osselaer and Janiszewski 2012). This seemingly minor nuance has important implications for understanding consumer choices. In multi-attribute choice models, consumers choose products for their attributes, and each attribute has a predetermined weight or importance. Goal-based choice models, in contrast, allow for dynamism such that the importance or weight of a goal is not stable, but depends on its level of activation (Van Osselaer and Janiszewski 2012). This is important, since it allows to explain how contexts, available means, or situations might affect consumer choice by activating (or inhibiting) different goals to a certain extent. The notion that temporarily activated goals might affect the value of different products goes back to Lewin (1935) who suggested that during self-regulation, individuals' goals might change how they experience goal-related choice alternatives: items that support goal attainment should be perceived as positive whereas those that hinder goal attainment should be considered more negative. In a seminal article, Brendl, Markman, and Messner (2003) found support for this notion by showing that increasing people's desire to eat (i.e., activating an "eating" goal) made non-food items less attractive to them. Similarly, in another study these authors found that smokers who were deprived from smoking, thus for whom the goal of smoking is presumably highly active, judge the length of a cigarette to be longer compared to those who were not deprived (i.e., low smoking goal activation).

In this dissertation our focus leans to these latter situations in which consumers make a single choice from a given assortment where each item is linked to a single goal. Furthermore we assume that choices are

made in a rather compensatory manner. This implies that consumers who have an active goal in mind, would evaluate the items within an assortment on each attribute, determine the value each attribute represents, and make an overall judgment about the attractiveness of the item based on all its features. In this sense, positively evaluated attributes can compensate for negatively evaluated attributes. In the context of pursuing goals, such decision strategy would entail determining – for each of a product's attributes – the extent to which it is valuable in satisfying the goals a consumer holds. The item within an assortment containing the most valuable combination of attributes for achieving those goals, would be the most preferred one. Making this evaluation and translating attributes in value-for-goal-achievement – however – might be difficult and cognitively demanding. In this dissertation, we focus on a specific type of assortment organization that externally links items to goals, which bypasses this translation step (see section 1.4). The following two parts of this introductory chapter further discuss what we exactly mean with the concept of goals and how such goals can be used as an organizing principle for assortments.

1.3 CONSUMERS' GOALS AND MEANS

"You are adrift while you still think that a means is an end."

Shah (1983, p. 133)

The why of human behavior has traditionally been explained through the notion of motivation (Atkinson and Birch 1970). In particular, human behavior is considered to be motivated by the goals individuals set for themselves (Dijksterhuis and Aarts 2010; Higgins 1997). Given the central position goals occupy in theories of human behavior it is important to address the question: What is a goal?

In this dissertation, we adopt the definition of goals as "*cognitive representations of a desired endpoint that impact evaluations, emotions and behaviors*" (Fishbach and Ferguson 2007, p. 491). This implies that we consider goals as knowledge structures that guide behavior. These goals or end states can be related to reaching or maintaining a positive state, or to preventing an undesired state (Higgins 2002; Higgins 1998; Latham and Locke 1991; Vohs and Heatherton 2000).

Note that this cognitive view on goals departs from earlier behavioral research that treated motivation as separate from cognition (Kruglanski et al. 2002). To illustrate, many dual-mode models of persuasion (e.g., Cacioppo and Petty 1984; Chen, Duckworth, and Chaiken 1999; Petty, Cacioppo, and Schumann 1983) contend that motivation determines which type of processing occurs. For example, heuristics are simple, cognitive rules of thumb by which information can be processed when processing motivation is low. Heuristics are, in other words, knowledge structures that exist in memory and that can guide behavior, at least if they are available in memory, accessible at the moment, and applicable to the situation (Higgins 1996). Systematic processing, in contrast, is at the other end of the spectrum, where processing motivation is high (e.g., in case of high involvement decisions). Such processing is related to an effortful, elaborate and in-depth treatment of relevant information.

The conceptualization of goals as knowledge structures, however, does not consider motivation as separate from cognition, but adopts a "motivation as cognition" approach (Kruglanski et al. 2002). This view considers motivation (discrepancies between goals and goal-attainment) and motivational constructs (e.g., goals and means) to be cognitively represented (Fishbach and Ferguson 2007; Kruglanski and Kopetz 2009; Kruglanski et al. 2002). This view implies that goals are subject to a number of cognitive principles. First of all, goals – like all other cognitions such as categories, schemas, concepts or judgments – can be activated or primed (Kruglanski and Kopetz 2009; Sela and Shiv 2009; Shah and Kruglanski 2003), even outside our consciousness (Bargh, Chen, and Burrows 1996; Chartrand and Bargh 1996; Chartrand et al. 2008). This also implies that different goals have a different level of accessibility or activation potential (Higgins 1996), and that each single goal also fluctuates in accessibility across different situations or moments in time (Fishbach and Ferguson 2007).

Secondly, goals as cognitions are part of a larger network of cognitions in memory and in this way form a "goal-system" (Kruglanski et al. 2002). Within these goal-systems (see Figure 1.2), goals can be cognitively linked to or associated with a wide array of other cognitions such as means of goal attainment, subgoals, alternative goals, competing goals, contextual cues, etc. (Fishbach and Ferguson 2007). These associations can be excitatory (i.e., facilitative) or inhibitory (i.e., suppressing) in nature. This means that the activation of one node in this cognitive network can either activate or suppress other nodes that are associated with it. In other words, goals seem to follow the classical knowledge activation processes (Anderson 1983; Collins and Loftus 1975). To illustrate, when a goal becomes activated in memory, this activation will spread to other cognitions linked to that goal. As a result, means to achieve that goal, but also other (sub)goals, become activated and more accessible in memory as well. At the same time, however, competing goals and means get suppressed and become less accessible. To illustrate, Laran and Janiszewski (2009) show in a food context how the activation of a pleasure goal reduces activation of the competing health goal.

It follows that over time goals will become so strongly associated with certain means or behaviors that the activation of that goal will automatically lead to a certain behavior (Bargh 1990; Bargh, Chen, and Burrows 1996; Chartrand and Bargh 1996). This automaticity is especially noticeable in our everyday habits (Aarts and Dijksterhuis 2000). Research by Shah and Kruglanski (2003) furthermore shows that this activation pattern between goals and means is bidirectional and that encountering (and cognitively activating) a goal-relevant means might also activate certain goals related to that means. To illustrate, when you are walking through your local shopping street, passing a luxurious and prestigious store (e.g., *Nordstrom*) might activate a prestige goal, whereas passing a value-for-money or discount store (e.g., *Wal-Mart*) might activate a thrift goal (Chartrand et al. 2008). In line with this, other research has demonstrated that the activation of a certain brand (e.g., *Apple*) can lead to behavior (e.g., creativity) that is highly associated with that brand (Apple makes you *'Think Different'*) (Fitzsimons, Chartrand, and Fitzsimons 2008).

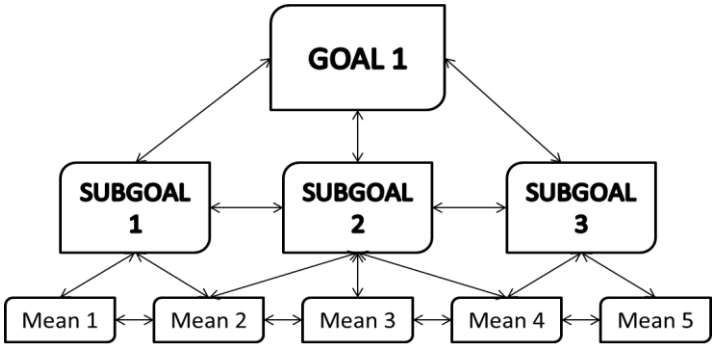

FIGURE 1.2 : A GOAL-SYSTEM (ADAPTED FROM KRUGLANSKI ET. AL 2002)

In sum, we consider goals to be cognitive and motivational at the same time (Moskowitz and Grant 2009). Goals are cognitive because they are mental representations of actions or the desirable results of those actions that gives people a purposeful direction (Dijksterhuis and Aarts 2010). In this sense they provide us with a cognitive reference point for our behavior (Heath, Larrick, and Wu 1999). Goals are motivational as well, since the fact that goals represent desired end states motivates us to strive for those goals (Custers and Aarts 2005; Dijksterhuis and Aarts 2010). In this sense, one can consider goals as the warm bridge between cold cognition and hot motivation (Moskowitz and Grant 2009; Sorrentino and Higgins 1986).

Once goals are activated, of course, people might become motivated to attain them. In order to achieve goals, people need to take certain actions (e.g. buying a product) that lead to subsequent actions (e.g. consuming that specific product) (Park and Smith 1989). This conceptualization of choice as a goal-directed process bears strong resemblance to the notion of means-end chains (Pieters, Baumgartner, and Allen 1995). Means-end chain theory and the laddering technique for researching these chains contend that a certain hierarchy exists of lower-level concrete means and higher-level abstract goals (Gutman 1997), in which each successive goal is a subgoal of the end goal (Bagozzi and Dabholkar 1994; Pieters, Baumgartner, and Allen 1995). To illustrate, a possible means-end chain for diet soft drinks might be: low calorie → weight control → look better → more self-esteem → happiness (Gutman 1984). In line with this theory, Huffman, Ratneshwar, and Mick (2000) propose a hierarchical goal structure with six discrete levels of goals. In this framework, higher-level goals are more abstract and less mutable than lower-lever goals. Higher-level goals include life themes and values, and life projects. Lower-level goals are more directly linked to the product itself, such as feature preferences or benefits sought (Figure 1.3). With benefits is meant the desired consequences from owning, using, or disposing of a product, such as it being healthy, luxurious, comfortable, safe or convenient (Huffman, Ratneshwar, and Mick 2000; Myers and Shocker 1981; Young and Feigin 1975). Features (e.g., a car's technical aspects), on the other hand, are concrete and objective physical or financial characteristics that refer to the product itself rather than the outcome of using the product (Myers and Shocker 1981; Ratneshwar et al. 1999; Zeithaml 1988). According to this model, goal influences can flow in both directions: top-down (where higher-level goals shape lower-level goals) as well as bottom up (lower-level goals determine what higher levels should be). In other words, activating a goal might determine which means to pursue or which behavior to perform (cf. Laran and Janiszewski 2009), but pursuing a mean or performing a certain action might also affect which goals get activated (cf. Shah and Kruglanski 2003).

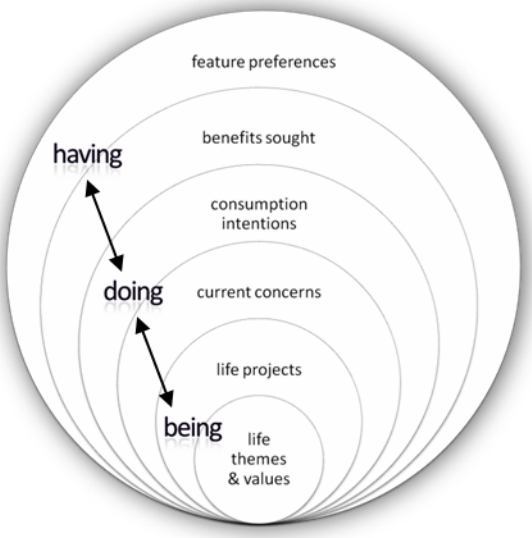

FIGURE 1.3 : A HIERARCHY OF CONSUMER GOALS (ADAPTED FROM HUFFMAN ET AL. 2000)

In this dissertation we focus on lower-level goals (i.e., benefits sought). In particular, we focus on how assortment strategies might help or hinder consumers to navigate through the available assortment when looking for the items that provide the necessary benefits to fulfill their active goals. In line with the goal-based model of product evaluation and choice of Van Osselaer and Janiszewski (2012), we contend that consumers' buy products for the benefits they provide and not necessary for their attributes and features. In other words, product evaluation and choice will be driven by "*consumers' expectations about the benefits of consuming a*

product" (p. 261, Van Osselaer and Janiszewski 2012). Yet it might be difficult for consumers to know exactly which products are good means for achieving their active goals (i.e., their benefits sought), especially when only attribute information is available or products are organized in nominal, taxonomic product categories. Therefore, this dissertation examines how goal-based product assortments or goal-based product labels affect consumers' product evaluations and choice.

1.4 Linking Goals to Product Assortment Organization

"Mind and world in short have evolved together,
and in consequence are something of a mutual fit."
(James 1892, p. 3-4)

The importance of assortment organization has been underscored by many researchers (e.g., Chernev 2005; Gourville and Soman 2005; Kahn and Wansink 2004; Messinger and Narasimhan 1997; Mogilner, Rudnick, and Iyengar 2008; Morales et al. 2005; Poynor and Wood 2010; Poynor Lamberton and Diehl 2013b; Van Herpen and Pieters 2002). How assortments are organized can have far-reaching consequences for retailers, manufacturers and consumers (for a review, see Chernev 2012). But why is it important to organize assortments into categories in the first place?

The world is a complex place with so many different objects that it appears that "without the ability to categorize, we could not function at all" (p. 6, Lakoff 1987). Therefore, categorization is one of the most basic functions of human cognition encompassing all forms of stimuli (Medin, Ross, and Markman 2004; Mervis and Rosch 1981). The purpose of categorization is to allow individuals to make sense of their environment by classifying information into distinct categories (Cohen and Basu 1987; Loken, Barsalou, and Joiner 2008). Through such categories, people can dramatically simplify their world by treating certain non-identical objects within a category as equivalent, while sufficiently distinct from objects that are not part of that category (cf. cognitive economy; Rosch 1978; Rosch et al. 1976).

Once a category representation is formed (i.e., a mental representation of the category stored in memory), it can be used to further classify newly encountered objects (Loken, Barsalou, and Joiner 2008) but also to draw inferences about the unknown properties of new object based on prior category knowledge (Loken 2006). Furthermore, based on newly encountered objects, individuals might learn more about a category and adjust their category representations, beliefs and attitudes accordingly (John, Loken, and Joiner 1998; Loken and John 1993). Increased experience within a certain category also allows individuals to categorize items at ever more specific levels (Rosch 1978). To illustrate, a non-expert might classify an object as a car, whereas an expert might classify it as a BMW 5 series (Alba and Hutchinson 1987; Mitchell and Dacin 1996).

Thus, categories and category representations may exert a strong influence on individuals' information processing, perception and judgment (e.g., Chernev and Gal 2010; Goldstone 1995; Goldstone 1994; Loken 2006; Loken, Barsalou, and Joiner 2008; Redden 2008; Schwarz and Bless 1992; Ülkümen, Chakravarti, and Morwitz 2010). Therefore it is important to understand how categories are structured internally. In general three types of categories are commonly used: taxonomic categories, ad-hoc categories, and goal-derived categories.

Taxonomic categories are the commonly known, natural categories individuals use such as cars, birds, shoes and beverages. According to the classical view on categorization, each category representation is built around a set of defining features, such that the presence or absence of these features determines whether or not an item is considered part of that category (Smith and Medin 1981). This implies that assigning an item to a certain category is based on clear-cut rules, such that category boundaries are clearly marked as well (Medin, Ross, and Markman 2004). Nevertheless, extant research shows that people have difficulties articulating which features are defining for a category (Smith and Medin 1981). Furthermore, individuals often disagree with each other on category membership of a certain item (McCloskey and Glucksberg 1978). To illustrate, people might disagree with each other on the fact whether a rug is 'furniture', whether a wallet is 'clothing', or whether chess is a 'sport'.

In an attempt to address several issues concerning the classical view on categorization, seminal work by Rosch and Mervis (1975) suggests that category membership is a matter of degree, and that some members are better examples than others of the category. In other words, taxonomic categories are characterized by a graded structure with typical and less-typical instances (Loken and Ward 1990). This probabilistic (or prototype) view on categorization contends that categories are represented as abstract concepts that are a summary of highly probable – but not necessarily defining – properties of its members (Smith and Medin 1981)[1]. For example, our category representation of birds might include features such as having feathers, flying around, building nests and having hollow bones. Nevertheless, not all instances of birds (e.g., ostrich, penguin, chicken) need to possess all of these features (Medin, Ross, and Markman 2004).

Thus, the internal structure of natural, taxonomic categories can be understood as organized around the prototype (Mervis and Rosch 1981; Rosch 1978; Rosch and Mervis 1975). This prototype possesses all of the characteristic (or typical) features of that category, and this representation appears to be stable across individuals and across time (Rosch et al. 1976). Rosch and Mervis (1975) further demonstrated that a category member was considered more typical for its category the more it possessed those characteristic properties, but also that less-typical members tended to possess more attributes that were characteristic of other categories. It is important to note, however, that the abstract prototype or best example of a category does not necessarily needs to exist in reality. The prototype is merely used as a criterion for judging category membership of other items: items that sufficiently resemble the prototype are classified as members of that category.

Next to the internal structure of natural categories, it is also important to discuss their between-category structure. Note that we discussed how the internal structure of natural categories was organized around the central tendency of the category (the prototype) and that category membership of other items essentially

[1] Note that within the literature on probabilistic categorization, there also exists an alternative view next to the prototype view: exemplar theory (e.g., Nosofsky 1986). This model differs from prototype theory by assuming that people store concrete exemplars for each category and then compare new objects with stored exemplars. Category membership then depends on the degree of similarity with concrete exemplars rather than abstract general representations, as is the case for prototype theory.

depends on how similar they are to that prototype. In other words, such categories are formed by maximizing within-category similarities. This, however, implies that two members of the same category should be more similar to each other than any other pair of items from two different categories (Medin, Ross, and Markman 2004). The between-category structure of natural categories can be understood as a hierarchical taxonomy with different levels of abstraction (Rosch 1978; Rosch and Mervis 1975; Rosch et al. 1976): a basic level (e.g., 'chair'), superordinates (e.g., 'furniture') and subordinates (e.g., 'comfortable chair'). The prototype is commonly situated at this basic level and is the label individuals would use as the default for categorization (Medin, Ross, and Markman 2004). Furthermore, this basic level is considered as that level of categorization that not only maximizes within-category similarity, but also minimizes between-category similarity (Rosch 1978; Rosch and Mervis 1975). Note, however, that for experts within a category, the standard level of categorization might shift from the basic level to the subordinate (Alba and Hutchinson 1987; Johnson and Mervis 1997; Johnson and Mervis 1998).

In the context of consumer goods, a similar type of hierarchy in categories can be found. In particular, markets tend to be organized in hierarchical categories such as product family, product class, product type, brand, and item (Kotler and Keller 2005). Similarly, product assortments within a retail store are often organized by this same logic (Broniarczyk 2008; Broniarczyk and Hoyer 2010). Indeed, many retailers today organize their assortment in a hierarchical manner with a first grouping based on product class (e.g., fruit vs. beverages vs. bakery products). Within each product class, items are further displayed by product type at a basic level (e.g., soft drinks vs. bottled water vs. alcoholic drinks) and then by brand or by attributes such as flavor, size, etc. (Chernev 2012). This type of assortment organization, which we refer to as taxonomic or attribute-based, is not the focus of this dissertation. In this dissertation we focus on a different type of category organization that is not based on attributes, but rather the more abstract level of consumers' goals and benefits sought; a type of assortment organization to which we refer as 'goal-based'.

This concept of goal-based assortments is rooted in the notion that not all categories that people use are well-established, hierarchical and governed by physical similarities among items. Barsalou (1983) advances the idea of 'ad hoc categories' that are constructed (rather than retrieved from memory) to achieve certain goals or solve certain problems. To illustrate, when someone's house is on fire, (s)he is immediately capable of constructing a category of 'things to save from a burning house', although this is probably the first time (s)he has ever considered such a category (Barsalou 1991).

Two fundamental differences exist between ad-hoc categories and the previously discussed natural or taxonomic categories (Barsalou 1983). Firstly, whereas typicality in taxonomic categories is based on the extent of physical similarities to the prototype or best exemplar (Mervis and Rosch 1981; Smith and Medin 1981), typicality of an item in ad-hoc categories stems from its idealness for achieving the goal for which the category was created (Barsalou 1985). Consider the example of the ad-hoc category of 'things to save from a burning house'. This category might include items as diverse as pets, family photo albums, money, official documents, jewelry, etc. Note that this category is not based on shared physical attributes (a photo album

shares little physical similarities with a pet) but on their idealness or how instrumental they are for the goal-related dimension of emotional/financial value. Also note that physically very similar items are not included in this category: Monopoly money resembles real money (at least physically) but does not fit the goal of the ad-hoc category.

Secondly, ad-hoc categories– unlike common taxonomic categories – are not well established in memory (Barsalou 1983) Furthermore, these categories do not come to mind without a context that forces people to derive them on the spot (Barsalou 1983; Barsalou 1991). When, however, ad-hoc categories are constructed repeatedly, their representations might become stably encoded in memory, from which point onward they are considered "goal-derived categories" (Barsalou 1991; Barsalou 1985; Medin, Ross, and Markman 2004; Ratneshwar et al. 2001). Just like ad-hoc categories, goal-derived categories show the same graded structure based on ideals (Ratneshwar et al. 2001; Ratneshwar, Pechmann, and Shocker 1996). Nevertheless, given that their representation is stable in memory they might allow for additional category functions such as drawing inferences about unknown properties of their member items.

According to Barsalou (1991), taxonomic and goal-derived categories serve a somewhat different purpose. In particular, taxonomic categories are mainly used for a *primary categorization* purpose. That is, when individuals encounter an object, they try to make sense of that object by comparing it to their existing category representations. This allows them to 'recognize' and correctly classify the object in basic or subordinate categories (cf. cognitive economy; Rosch et al. 1976). Goal-derived categories, on the other hand, serve a *secondary categorization* purpose in which objects are categorized in light of current goals. To illustrate, a consumer with a dieting goal might first classify an item as a soft drink, but then further classify it as a healthy vs. indulgent food item.

This difference in purpose of taxonomic and goal-derived categories brings us to the idea of product assortment organization. We previously mentioned how most retailers organize their assortment in a hierarchical manner based on product class or type (which is not the focus of this dissertation). This calls for grouping together items based on their shared physical attributes. By grouping together items in this manner, retailers may help shoppers to immediately recognize items for what they are (i.e., primary categorization). Nevertheless, according to the theories of goal-based choice (Ratneshwar, Mick, and Huffman 2000; Van Osselaer and Janiszewski 2012; Van Osselaer et al. 2005), people buy products in the first place to satisfy certain goals and needs, and not necessarily for their attributes. In line with this view, retailers are increasingly experimenting with assortment organizations that are based on goals rather than attributes (Poynor and Wood 2010; Poynor Lamberton and Diehl 2013b). Such layouts involve grouping items that all serve a particular goal. In this way, these assortments may help consumers to find the items that best suit their active goal (i.e., secondary categorization).

It is important to note, however, that assortments can be organized by goals at different levels. At the most basic level, every single product within the assortment might be linked individually with a specific goal. Such an organization involves including a goal-based label on each product's packaging or in the product's

name. To illustrate, *Sony* named one of its smartphones "*XPeria PLAY*" to link it to the consumption goal of gaming. Many brands also include a goal-based label on their product packaging to link each product to a specific goal, such as *Dr. Teal's* that labels each of its Epsom bath salts according to the goal they serve: 'Sleep', 'Revitalize', and 'Relax'. Pasta brand *Soubry* employs a similar technique (see 1.1). We refer to this type of assortment strategy as 'goal-based labeling', which is the main focus of the study presented in Chapter 2.

Secondly, retailers might opt for arranging items *within* a specific product category in terms of goals or benefits, rather than by brands or attributes. This type of organization is used, among others, by *Hertz* by which they organize their assortment of rental cars into goal-categories such as 'Green, 'Adrenaline', or 'Prestige'. Note that this type of organization calls for grouping together items *within the same product category* in terms of their benefits (see also Poynor Lamberton and Diehl 2013b) or goals (e.g., usage context; Warlop and Ratneshwar 1993) rather than by type (e.g., minivans, sedans, etc.). This type of organization – to which we refer as 'goal-based (product) assortments' – is the main focus of Chapters 3, 4 and 5.

Finally, a 'truly' goal-derived assortment would involve grouping together items from *across* different product categories that all fulfill a similar goal. To illustrate, retailers might create a 'diet food' category which includes items such as certain fruits, certain snacks, certain yoghurts, certain cereals, etc. that are all close to the ideal of having zero calories. As such, these assortments fully reflect the well-studied notion of goal-derived categories (Barsalou 1991; Felcher, Malaviya, and McGill 2001; Morales et al. 2005; Ratneshwar et al. 2001; Ratneshwar, Pechmann, and Shocker 1996). The number of potential goal-derived assortments within a retail setting are virtually unlimited and offer a rich potential for further research that goes beyond the scope of this dissertation. Furthermore, the use of (limited) goal-derived product presentations is commonly used by retailers, such as when complementary products such as spaghetti and pasta sauce are displayed next to each other (Chernev 2012).

At this point it is also important to stress what exactly we mean with product attributes, product benefits, and consumption goals and how they are linked. Product attributes are the concrete (e.g., the number of airbags) or abstract (e.g., the quality of the interior design) characteristics that constitute the product (e.g., a car). Product benefits, on the other hand, are the advantages or valuable outcomes that (a combination of) the attributes of a product provide to the consumer (e.g., how safe a car is). Depending on which goals consumers pursue, different benefits will be more important to them, and therefore they will seek different attributes and attribute levels in products. In this dissertation, we focus on assortments in which items are organized by the benefits they provide (e.g., wines to pair with red meat versus wines to pair with fish), rather than by the presence of a specific attribute (e.g., wines from France versus wines from Argentina).

This difference, however, between attributes and benefits might not always be clear in a retail environment since a single attribute (rather than a particular combination of attributes) might provide an immediate benefit. Consider for example a retailer that organizes its product category of soft drinks by packaging size (a single concrete attribute): single pack versus multipack. This particular assortment

organization could be considered as goal-based based on the benefits “on the go” (single pack) versus “family friendly”. Nevertheless, in most instances a benefit is the outcome of the combination of multiple attributes.

As a final remark, note that the difference in attribute-based and goal-based product categories is also reflected in the different ways that manufacturers think about their market (Felcher, Malaviya, and McGill 2001). Traditionally, manufacturers measure their performance as a market share within a certain product category (e.g., market share within the beer market). Nevertheless, more and more manufacturers recognize that they are not only in competition with players within that product category, but with all firms that are able to cater to a similar consumption goal. To illustrate, the biggest brewer in the world, AB InBev, measures performance not only as market share within the beer market but also as *share-of-throat* which includes competitors from other product categories such as wine and liquor (Bouckley 2014).

1.5 Dissertation Objective and Outline

Throughout the work presented in this dissertation, the central concept under investigation is that of goal-based assortments. Goal-based assortments call for grouping items based on their instrumentality to fulfill a consumption goal, whereas traditional product categories are formed around physical similarities. As a result, goal-based assortments might include items that span different product categories (e.g., a 'convenient snacking' assortment might include items as diverse as cookies, donuts, fruit, etc.), while the items of a single product category might serve a myriad of goals.

This idea of assortment organizations based on consumption goals is rooted in categorization research suggesting that consumers do not only categorize products in natural, taxonomic categories such as fruit, beverages, vehicles or shoes, but also create ad-hoc categories of items that might help them to achieve a specific goal or need (Ratneshwar et al. 2001; Ratneshwar, Pechmann, and Shocker 1996). To illustrate, a consumer walking through the aisles of a supermarket might construct the goal-derived category of 'snacks to eat in front of the TV tonight', and additional goals such as 'being healthy' or 'indulge myself' might lead to very different items being part of that category.

In this dissertation, we build on these insights from categorization research to examine product categories that are externally organized in goal-derived subcategories – what we refer to as 'goal-based assortments'. Although such goal-based assortment organizations are increasingly being used in the marketplace, many questions about their impact on consumers' evaluations and choice remain unanswered. Throughout the following chapters, the research presented in this dissertation aims to shed light on some of these questions. Note that we limit ourselves to the role of organizing an assortment in a goal-based manner and do not fully consider other variables that might affect consumers' behavior such as price, involvement, and type of decision making (compensatory versus non-compensatory). Furthermore, the stimuli we use are rather simple in the sense that they are from low involvement categories, do not include a lot of attributes, complex attribute trade-offs, and the assortments from which consumers choose are also limited to avoid negative effects of choosing from overly large assortments.

After having shortly introduced the topic of this dissertation in this first section of this chapter, Chapter 1 offered an extensive overview of the conceptual underpinnings underlying the notion of goal-based assortments. Firstly, the literature on goal-based choice was reviewed in which we discuss what goals are, which types of goals exist and how they are related to each other, and how goals affect consumer behavior. Next, we focused on categorization research and canvassed how the different types of categorization processes consumers might employ tie in with the overall topic of this dissertation: goal-based assortments. The following four chapters each are stand-alone essays on how goal-based assortments affect consumers' evaluation of the assortment, its products, and, ultimately, which items they choose.

Chapter 2 – How Goal-Based Labels Drive Choice and Choice Satisfaction – focuses on the effect of linking single products to specific consumption goals on consumers' choice outcomes. In particular, this research deals

with the practice commonly used by brand manufacturers of adding goal-based labels to their products. Business practitioners increasingly seem to believe in the power of such goal-based labels (i.e., labels that link assortment items to consumption goals). Sony, for example, overtly links one of its smartphones to the consumption goal of gaming by including a goal-based label in the product name 'XPeria PLAY'. While previous literature has focused on feature-based assortment approaches to increase choice satisfaction, we introduce goal-based labeling as a consumer-based approach to increase choice satisfaction. Since goal-based labels (e.g., a "Family Trip" camera versus a "Professional" camera) relate choice alternatives directly to consumption goals, they allow consumers to bypass translating product attributes into goal attainment. In this chapter, we present quantitative and qualitative results of an experimental study that indicate that novice consumers, but not experts, benefit from goal-based labeling in multiple ways. Novice consumers use goal-based labels as an important cue in their decision making. This can significantly increase their chances at making an optimal choice. Choosing from a goal-based labeled assortment also has a positive effect on the choice satisfaction of novices. Mediation analyses show that a decrease in the choice uncertainty drives the positive effect of goal-based labeling on choice satisfaction. Novices apparently do not blindly follow the labels that are provided but try to understand the link between labels and attributes. Hence, among novices, inaccurately labeled assortments not only result in suboptimal choice but also in higher uncertainty and lower satisfaction. For experts, goal-based labeling is largely irrelevant, as it does not have an effect on their choice satisfaction, nor on their likelihood to make an optimal choice.

Chapter 3 – When Goal-Based Assortments Lead To Goal-Inconsistent Choices – focuses on organizing items within a single product category into goal-based subcategories. On its website, for example, car rental company Hertz divides its assortment of vehicles not by type (SUV, sedan, minivan, etc.) but by goal ('Green', 'Adrenaline', 'Prestige', etc.). More and more retailers are using these goal-based assortment organizations to help consumers choose the item that best satisfies their goal. The data reported in this chapter, however, casts a shadow over this practice by showing that goal-based assortment organizations decrease rather than increase the likelihood that consumers choose the goal-maximizing item from an assortment. This research further demonstrates that this occurs because goal-based assortment organizations increase similarity among the items on goal-relevant attributes, which therefore become less diagnostic. As a consequence, consumers revert to other goal-irrelevant dimensions to make their choice. As a result, consumers might end up choosing a product that is less consistent with their initial goal. Data from four empirical studies offer converging evidence for the phenomenon and the proposed theoretical account.

Chapter 4 – A Closer Look at the Perceived Variety of a Goal- Versus Attribute-Based Assortment – examines how two types of assortment organizations might differently affect consumer perceptions of the variety offered by that assortment. Most product category assortments are organized either by shared attributes (i.e. taxonomically) or by shared benefits (i.e., goal-based). The data reported in this chapter show that there is no one-to-one relationship between these the organization format and overall perceived variety. Instead, results show that assortment organization drives overall variety perceptions via two separate paths: through within-subcategory and between-subcategory dissimilarities. Three experiments provide converging

evidence that – relative to taxonomic assortments – goal-based assortments increase within-subcategory similarities as well as between-subcategory dissimilarities. Thus, depending on the number of subcategories, overall perceived variety might be higher or lower in goal-based versus taxonomic assortments. This research contributes to a more precise understanding of how assortment organization affects variety perceptions by unraveling overall variety into within- and between-subcategory similarity.

Chapter 5 – Inference Making in Goal-Derived Assortments: The Role of Similarity to the Ideal – focuses on another downstream consequence of organizing assortments by goals: consumers' inferences about the products in the assortment. Whether displayed in a supermarket, on a website, or in a folder, products are rarely described in full detail. In most situations, consumers do not have access to much attribute information about products so they revert to what information is available to draw inferences about unknown properties of a product. When evaluating products displayed in an assortment, one particularly salient piece of information is the category label under which a product is displayed. Whereas past research has demonstrated that taxonomic labels that point out that an item is member of a specific product category have a significant impact on how consumers evaluate a product, little is known about the impact of goal-based labels. The research outlined in this chapter points out that goal-based category labels might affect consumers' inferences by increasing an item's perceived similarity to an ideal product for goal fulfillment. As a result of this increased similarity, the product is perceived as more instrumental to that goal, which drives consumers to infer that it possesses more of the qualities needed for goal achievement. This research further shows that this impact is limited to inferences about product characteristics that are goal-relevant. Furthermore, the research demonstrates that the availability of inconsistent information suppresses the effect of goal-based category labels on consumers' inferences. Data from three empirical studies offer converging evidence for the phenomenon and the proposed theoretical account.

Finally, Chapter 6 reviews the main findings outlined in this dissertation from a bird's eye view. By addressing the results of our studies in light of previous findings in each of the literature streams in which this research is grounded, we will discuss its theoretical contributions. We will also highlight the implications of our findings for management practice and lay out potential avenues for future research in this area.

1.6 How To Read This Dissertation

This dissertation is built around four main essays that each cover a different aspect of the general topic of goal-based assortments. Each essay is written as a stand-alone article and they all are currently in preparation for submission to a scientific journal (Chapter 3), under review at a scientific journal (Chapters 4 & 5), or already published (Chapter 2: published in Marketing Letters, March 2012, Vol. 23 Issue 1, p. 119-136). Each of these chapters therefore has its own introduction section, literature review, findings and discussion section.

Since each essay can be read in isolation, some of the theories on which this research is grounded will span all four essays. Although some overlap between these chapters exists, each of them considers goal-based assortments from a different aspect. To offer a broader view on the phenomenon of goal-based assortments, the four empirical essays are encapsulated by a general chapter on the theoretical foundations of this dissertation (Chapter 1) as well as a chapter on its general conclusions and implications (Chapter 6).

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2

INCREASING CHOICE SATISFACTION THROUGH GOAL-BASED LABELING

2.1 INTRODUCTION

Imagine you want to buy a mountain bike (MTB) to start participating in recreational tours in the dunes near your place. Most of the MTB brands you encounter offer an assortment of bikes with fancy but rather meaningless labels. For example, the brand Cannondale has MTBs that are labeled Flash, Jekyll or Claymore, and Scott offers models such as Spark, Scale, or Genius. One brand uses labels that reflect specific usage goals related to mountain biking such as Muddy Woods or Sandy Beach. Being new to the category, which brand would you choose and with which brand would you be most satisfied?

Business practitioners increasingly seem to believe in the power of goal-based labels (i.e., labels that link assortment items to consumption goals) to drive consumer choice and increase choice satisfaction. Nokia, for example, used the label "XpressMusic," recognizing that listening, downloading, and transferring music is increasingly considered a key consumption goal of cell phones. Acer introduced "TravelMate" as a goal-based brand label to meet the upcoming consumer mobility need. Recently, Sony Corporation launched the Xperia "Play" to efficiently communicate that this cell phone includes Playstation Portable technology—which should make it the perfect phone for gaming. Theoretically, practitioners' move into goal-based assortment structures to communicate their products in a more consumer centric way seems justified. After all, consumers choose products to achieve personal consumption goals (Van Osselaer et al. 2005).

Yet, despite its theoretical and practical relevance, little is known about the effect of goal-based labels on consumer satisfaction. The introductory example raises several questions: When choosing a MTB, would consumers focus on product attributes (e.g., suspension type), labels (e.g., Sandy Beach) or both (what type of suspension does the Sandy Beach have and why)? What is the impact of consumers' product expertise on this choice process? Would novices learn anything about MTBs when they are guided by goal-based labels? Do goal-based labels impact consumers' satisfaction with the choice? And by which process would goal-based labels enhance choice satisfaction?

Previous research on how assortment types can increase choice satisfaction mainly focuses on product- and attribute-centered approaches (e.g., Mogilner, Rudnick, and Iyengar 2008). The current paper takes on a consumer instead of a product perspective and proposes goal-based labeled assortments as a consumer-based approach to increase choice satisfaction. More specifically, we explore the impact of goal-based labels on choice guidance and choice satisfaction. We investigate consumer expertise as a potential boundary condition of the goal-based labeling effect, and we study the process underlying the effect of goal-based labeling. To this end, we investigate the mediating role of choice difficulty and choice uncertainty, identified as important drivers in previous research on choice satisfaction (Huffman and Kahn 1998; Poynor and Wood 2010; Schwartz 2004). We also analyze the reasons that consumers provide to explain their choice (e.g., attribute-based versus label-based reasons).

2.2 Conceptual Background and Hypotheses

Previous research on the impact of assortment structures on choice satisfaction departed from a product perspective. In this vein, feature-based approaches have been suggested, such as creating attribute alignability (i.e., product variance along a single, compensatory dimension instead of multiple, non-compensatory dimensions; Gourville and Soman 2005) or working with attribute-based categories (Mogilner, Rudnick, and Iyengar 2008). We propose a consumer-centric perspective, starting from consumers' ways of processing information. Since the pursuit of goals drives much of consumers' choice behavior (Lawson 1997; Van Osselaer et al. 2005), we advance goal-based labeling as a mechanism to increase consumer satisfaction.

2.2.1 Goal-Based Labeling and Consumer Choice

Consumer choice can be conceptualized as choosing products to achieve consumption goals (Drolet, Luce, and Simonson 2009; Van Osselaer et al. 2005). Consumption goals can be very abstract and general (e.g., buying a certain product because it increases one's self esteem) but can be very concrete and product specific as well (e.g., searching a reliable car for a long-distance travel) (Ratneshwar, Pechmann, and Shocker 1996). In this paper, we focus on accessible, concrete goals. The consumer choice process boils down to identifying from an abundance of alternatives the item that is most likely to satisfy a consumption goal. To this end, consumers first have to assess to what extent specific product attributes can be helpful in contributing to their consumption goals. Next, they have to infer to what extent the different choice alternatives possess these product attributes.

Especially the first step of this process may pose problems. Consider the example of three digital photo cameras A, B, and C that, respectively, offer 9, 12, and 15 megapixels. The average consumer might know that camera C is the best, but still has to determine the amount of megapixels needed to achieve her/his consumption goal (e.g., taking holiday pictures). Additionally, s/he has to evaluate to what extent other attributes (e.g., optical zoom level) matter to achieve this consumption goal. An assortment with goal-based labels (e.g., Budget, Family Trip, or Professional) allows to simply infer goal attainment from the label. So, goal-based labels allow consumers to bypass translating product attributes into goal attainment.

2.2.2 Goal-Based Labeling and Consumer Expertise

The extent to which goal-based labeling drives consumer choice and consumer satisfaction is likely to depend on the level of consumer expertise. Experts possess well-developed knowledge structures or product schema. These product schema contain knowledge about the importance of product attributes and often include evaluative criteria and rules that guide experts' decision making (Marks and Olson 1981; Russo and Johnson 1980). Park and Lessig (1981) proposed that differentially developed product schema drive novices and experts to use different information when evaluating a product. Rao and Monroe (1988) illustrated that

this is indeed the case. They investigated the moderating effect of product familiarity on the extent to which price as an extrinsic cue and product information as intrinsic cues drive the assessment of product quality. They found that the more experienced consumers are, the stronger they rely on intrinsic cues. Experts sometimes also relied on price, but only for products that were characterized by a high price quality association in the market place. Other research confirms that experts indeed sometimes rely on price or other extrinsic cues, but generally rely on intrinsic information when making consumption decisions (Wagner, Klein, and Keith 2001). Experts can do so because they already have an ideal point—a readily available ideal attribute combination—in their mind. Therefore, they can easily select the option that best matches their ideal point (Chernev 2003b). As a result, barring typical biases to which experts are prone (e.g.,Einhorn and Hogarth 1978; Johnson and Russo 1984), they can be expected to easily make an optimal choice irrespective of whether or not the product assortment is described by goal-based labels.

Novices, in contrast, lack category knowledge. Neither do they have an ideal point in mind, nor do they have any prior knowledge of the relative importance of specific attributes. As a consequence, translating product characteristics into consumption goals may be problematic for them. To avoid this translation process, they tend to rely on extrinsic information sources other than the product attributes, such as price, specialist advice, or display cues (Hoeffler and Ariely 1999; Mogilner, Rudnick, and Iyengar 2008; Rao and Monroe 1988). A goal-based label may work in a similar way as price and display cues, as it is an external cue as well. As a consequence, we expect novices to rely on goal-based labels, without taking attributes into account. In other words, novices may select the goal-based labeled alternative that corresponds to their goal, irrespective of the fact that this label is accurate (i.e., the product with the goal-based label is objectively suited to accomplish the consumption goal) or inaccurate (i.e., the product is not well suited).

An accurate goal-based label may thus increase novices' chances at selecting the most appropriate alternative. As we use fictitious labels, experts cannot know whether these labels are accurate without looking at the product information. Experts have been shown to only use extrinsic cues when they know they are associated with intrinsic cues (Rao and Monroe 1988). Therefore, it is very unlikely that goal-based labels will affect experts' decisions. Hence:

H1a: Goal-based (accurate as well as inaccurate) labels will guide the choice alternative selection of novices, but not of experts.

H1b: Accurate (vs. inaccurate) goal-based labels increase the likelihood to make an optimal choice for novices, but not for experts.

Novices have been shown to experience confusion and frustration when faced with complex choices resulting in a negative effect on choice satisfaction (Mogilner, Rudnick, and Iyengar 2008). Although a multitude of definitions of satisfaction exist (see Giese and Cote 2000 for a review), satisfaction generally can be described as originating from a comparison of the choice outcome with an evaluative standard, typically the consumer's pre-choice expectations (Westbrook and Oliver 1991). More recently, Reutskaja and Hogarth

(2009) conceptualized satisfaction as the difference between the perceived cost of choice (e.g., cost of time to make a decision) and the perceived benefits of choice (e.g., economic benefits, perceived self-control) (Iyengar and Lepper 2000; Loewenstein 1999).

Relying on the latter definition, we propose that goal-based labels will increase consumer satisfaction by reducing the perceived costs of choice while keeping the perceived benefits of choice constant. As H1a predicts that novice but not expert consumers will rely on the goal-based labels to make a choice, it follows that goal-based labels will only reduce the perceived costs of choice for novices, but not for experts. Since experts already have an ideal point in mind, and are familiar with product attributes and their importance with respect to consumption goals (Alba and Hutchinson 1987; Russo and Johnson 1980), goal-based labeling will not impact their perceived costs of choice and subsequent choice satisfaction. Further, due to a lack of knowledge, novices can be assumed not to be able to assess the accuracy of the goal-based labels. Therefore, we expect that accurate as well as inaccurate goal-based labels will lower their perceived costs of choice leading to increased satisfaction. Thus, we expect:

H2: Goal-based labeling has a positive effect on choice satisfaction for novices, but not for experts.

2.2.3 The Mediating Effect of Choice Difficulty and Choice Uncertainty

As mentioned before, we expect goal-based labeling to reduce novices' perceived cognitive cost of choice leading to an increase in choice satisfaction. We advance two processes that could explain this effect: (1) a decrease in choice difficulty and (2) a decrease in choice uncertainty. Reutskaja and Hogarth (2009) argue that choice satisfaction can emanate from the actual choice ("outcome satisfaction") as well as from the process of choosing ("process satisfaction"). Although this study does not make this distinction and focuses on overall choice satisfaction, choice difficulty could be considered to be more closely linked to process satisfaction and choice uncertainty with outcome satisfaction. As goal-based labels are hypothesized to help novices to bypass the difficult attribute-to-goal translation step, goal-based labels can be expected to decrease novices' perceived choice difficulty. Since reducing perceived choice difficulty is one way to reduce the perceived cost of choice for novices (without affecting the perceived benefits of choice), it can be expected to increase their satisfaction with their choice process and consequently their general choice satisfaction (Shugan 1980). In line with this, Poynor and Wood (2010) reported a higher level of choice satisfaction when novices had to make a choice from an easier to process assortment, namely an assortment organized according to an expected versus an unexpected subcategory format. Therefore, we hypothesize:

H3: The effect of goal-based labeling on choice satisfaction for novice consumers is mediated by perceived choice difficulty.

Novices may not exactly know which product attributes enable them to fulfill their specific goals (Brendl, Markman, and Messner 2003), which may induce uncertainty with respect to the outcome of their choice.

Goal-based labels may decrease this perceived uncertainty because they suggest which choice options are suited to achieve the consumption goal at hand. A decrease in perceived uncertainty also reduces the perceived cost of choice of novices (again without affecting the perceived benefits of choice) and therefore can be expected to positively affect novices' choice satisfaction (Castaño et al. 2008). Thus, we hypothesize:

H4: The effect of goal-based labeling on choice satisfaction for novice consumers is mediated by perceived choice uncertainty.

2.3 METHOD

To test our hypotheses, we conduct a quasi-experiment in which we simulate a consumption choice setting using stimuli derived from a sequence of pretests. Stimuli In keeping with Mitchell and Dacin (1996), we select a product class (1) with a large number of readily available experts and novices, (2) consisting of different product types for which the salience can be manipulated by means of individuals' consumption goal, and (3) of which the choice options are described by several product attributes that can be used in product comparisons. Based on these criteria, we selected MTB's as the product category to test the hypotheses.

2.3.1 PRETESTS

Experts use more attributes, attribute levels, and more specific categories to differentiate between products than novices (Alba and Hutchinson 1987). To understand experts' and novices' knowledge structures and identify product attributes and consumer goals related to the MTB product category relevant for both novices and experts, a first pretest consisted of personal face-to-face interviews with ten expert and ten novice consumers. Novices were recruited via snowball sampling in the general population. Experts were recruited via snowball sampling from a local MTB association, where we identified individuals who were considered expert mountain bikers by their fellow association-members. We verified consumers' expertise (expert or novice) during the interview through subjective self-reports and objective responses to four product-class-specific questions (e.g., What is the difference between Shimano XT and SLX?), as proposed by Mitchell and Dacin (1996). Experts were able to correctly answer all four questions, whereas novices scored a maximum of one out of four correct answers.

In the interviews, we first probed for usage occasions (in what situations do you use a MTB or would you consider using a MTB? What would you use a MTB for?). This way, we generated a set of consumption goals that are relevant to both novices and experts. Furthermore, on the basis of the expert interviews we identified MTB product attributes for use in the main study. In response to the question, what product attributes were relevant in deciding which mountain bike to select for specific usage occasions?, expert users came up with five attributes: (1) frame material (carbon vs. aluminum), (2) suspension type (no, front only, front, and rear; travel level), (3) brake type (disk vs. rim; hydraulic vs. mechanical), (4) tires (width; profile), and (5) bike weight. Apart from these attributes, they also mentioned the "brand" as a relevant element. Combining the usage occasions/goals and the attributes, we identified four consumption goals: (a) to ride in the dunes and along the shoreline; (b) to ride on rocky terrains with lots of up- and downhill sections such as mountains; (c) to ride on muddy, root-infested ground such as rainy woods or forests; and (d) to ride on extreme, downhill tracks that include big jump and freestyle sections. We also related potential product names to each of these goals: (a) Sandy Beach, (b) Mountain Conqueror, (c) Muddy Woods, and (d) Extreme Jumper. Follow-up interviews revealed that the goal-based labels were linked to the respective goals identified.

For the choice task in the main study, we selected the consumption goal (a) riding in the dunes and along the shoreline. We selected this goal because experts expressed a clear consensus about the characteristics of an ideal MTB suited for this goal (for the other goals identified there was less consensus about the ideal MTB). Moreover, the ideal MTB type is very specific to this goal, and as a consequence rather atypical for the MTB category in general (e.g., no suspension and tires without profile). Hence, using this consumption goal allows us to be very clear about what constitutes an optimal choice, i.e., selection of a product that is optimal for the goal at hand. Also, it minimizes the likelihood of correct guesses by novices (who might be more likely to choose what looks like a "typical" MTB).

Next, a set of 12 MTBs was created. The assortment consisted of three fictitious brands with four models each. The attribute levels across these four models were manipulated in such a way that each of the four MTBs corresponded to one of the four consumption goals we defined (so we had three bikes for (a) riding in the dunes and along the shoreline, three for (b) rocky terrains with a lot of up- and downhill parts, etc.). One of the products corresponding to goal (a) was specified in such a way that it was superior to the other MTBs for riding in dunes and along shorelines. In an additional pre-test, we verified that the latter MTB indeed is superior for goal (a), and we quantified the distance of each product from this ideal choice. To do so, we used conjoint analysis, which allows us to quantify the utility of each product feature for the given consumption goal.

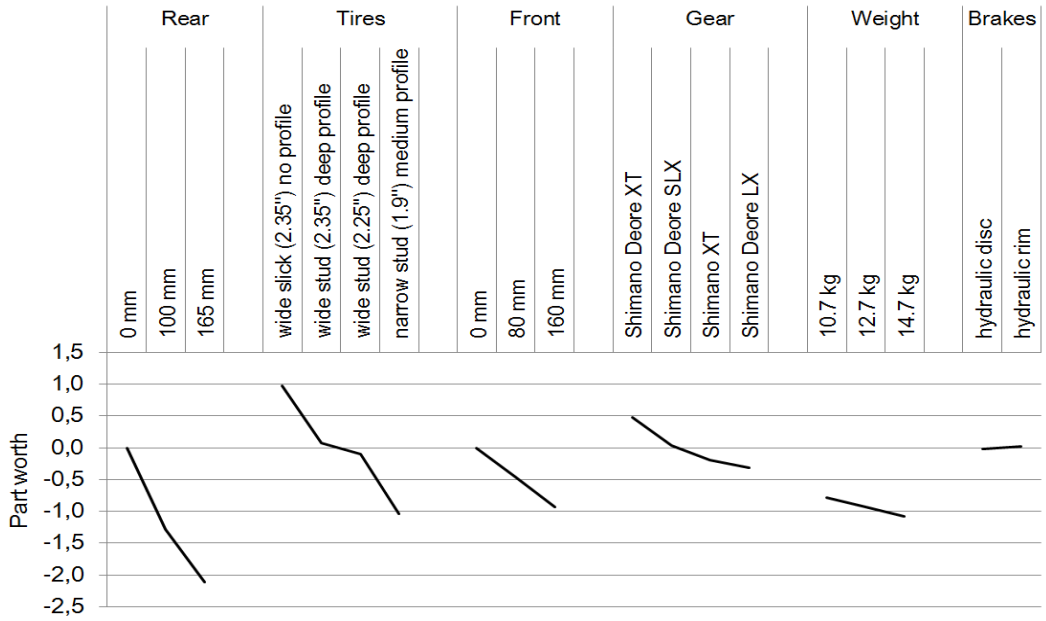
Conjoint analysis starts from the idea that a product definition can be decomposed into product attributes (e.g., weight and type of brakes). Each attribute has different levels (e.g., the attribute weight has different levels, like 10, 12, or 14 kg). Each attribute level has a certain utility (the attribute level's part worth) and each attribute has a certain quantifiable importance (depending on the overall contribution of its levels to the overall utility of the product). Based on the predefined attributes and their levels, the conjoint plan algorithm defines a set of fictitious products to be rated by respondents. The ratings of the fictitious products are then used to estimate the part worths of each attribute level (i.e., the contribution of the product attribute level to the overall rating of the product). Importantly, the fictitious products are defined by experimentally manipulating the attribute levels, such that their contribution to the rating can be determined independently of the other attributes.

For this pre-test, we applied the conjoint plan algorithm in SPSS 17.0 to the following attributes and attribute levels: (1) front suspension: 0 (described as "none"), 80, and 160 mm; (2) rear suspension: 0 ("none"), 100, and 165 mm; (3) weight: 10.7, 12.7, and 14.7 kg; (4) brake type: disk, rim; (5) tires: wide studded (2.35 in.) deep profile, narrow studded (1.9 in.) medium profile, wide slick (2.35 in.) no profile, and wide studded (2.25 in.) deep profile; and (6) gear (Deore XT, Deore SLX, Deore LX, XT). Weight and the two suspension attributes were defined as linear, the other attributes as discrete. Brand was not included as we used nonexistent brands. Frame material was also not included as we kept it constant (aluminum). The attributes were translated in a full-profile fractional design of 25 fictitious products. That is, respondents read product descriptions containing information on all attributes used in the conjoint, but not all possible combinations of

attribute levels were included. Note that the 25 conjoint product descriptions were not related to the assortment used in the main study (although they were described using the same attributes).

For this conjoint pretest, we recruited 14 MTB top experts by snowball sampling, starting from an expert contact in a MTB association. The experts filled out an electronic questionnaire. We included two questions (r=.55) to check respondents' expertise: "How would you describe your knowledge about mountain bikes, compared with the rest of the population?" (Johnson and Russo 1984), and "I am an expert when it comes to mountain bikes" (Bharadwaj, Naylor, and ter Hofstede 2009), both measured on a scale from 0 to 10. Means (SD) were 8.92 (0.64) and 8.46 (1.05), respectively. All experts rated the 25 conjoint-based products on a 7-point rating scale (1=not suited at all and 7=perfectly suited to ride in the dunes and along the shoreline). Based on their ratings, we computed the part worths of the attribute levels, displayed in Figure 2.1. Based on the part worths obtained from the conjoint analysis, we computed the utilities for each of the 12 MTBs in the main study assortment. The utilities of the 12 experimental MTBs in the main study assortment range from 1.51 to 4.84 (on a 7-point scale; M=3.44, SD=1.19).[2] As planned, the optimal MTB had the highest utility, followed by the two MTBs that were designed to be fit for the same consumption goal, but to be less optimal than the best MTB. Based on the utilities of the experimental MTBs, we also computed the distance of each MTB from the optimal MTB in the assortment (to allow for more fine-grained analyses of respondents' choices).

FIGURE 2.1: PART WORTH OF MOUNTAIN BIKE ATTRIBUTE LEVELS



NOTE.– Attributes are displayed in order of importance. Note that the intercept for the linearly defined attributes is set at an attribute level of zero; hence the difference in vertical location of different attribute profiles. 'Rear' and 'Front' refer to rear and front suspension.

[2] To clarify, the 25 mountain bikes in the conjoint study were defined by the conjoint analysis; the 12 bikes in the experimental assortment were defined by the authors based on the input of the expert interviews. The latter approach allows us to ensure realism of the experimental stimuli (rather than coming up with a mountain bike with a weight of 0 kg, for example, which would be ideal according to the part worths). This also explains why even our optimal mountain bike had a utility of less than seven.

2.3.2 MAIN STUDY

The main study consisted of a quasi-experimental 2 (expert vs. novice)×3 (no goal-based labeled assortment vs. accurate goal-based labeled assortment vs. inaccurate goal-based labeled assortment) full-factorial design. In total, 334 males participated with ages ranging from 14 to 65 years (M=37.4, SD=10.4). As an incentive to participate, respondents had the chance to win a prize (i.e., a free 1-year magazine subscription). Expertise was varied by recruiting participants online from two sources. We recruited experts on an Internet forum that groups 21.000 registered MTB adepts, presumably high on MTB expertise (N=173). Novices were recruited from the consumer panel of an international market research agency, representing the general population, with presumably low MTB expertise (N=161). As a manipulation check, expertise was again measured by means of the two items previously used in the pretests of Johnson and Russo (1984), and Bharadwaj, Naylor, and ter Hofstede (2009) (Pearson r=.93), measured on a 20-point scale. As expected, expertise in the first group (mountain bikers) was substantially and significantly higher than in the second group, with respective scores on 20 of M_1=15.28 (SD=3.57); M_2=5.89 (SD=5.02), t=−15.03, p<.001.

We randomly assigned participants to the assortments, one without labels, one with accurate goal-based labels, and one with inaccurate goal-based labels. The three product assortments, each consisting of 12 items, differ only in the way they are labeled. The information per bike is constant in length and content. Each assortment consists of three fictitious brands, each featuring four different bikes. Two brands are constant, whereas the third brand has three experimental conditions. In the first condition, all items of the third brand are solely described by their attributes, just as the items of the two other brands. In the second condition, the third brand has labels reflecting consumption goals (e.g., Mountain Conqueror; see above), and these labels are accurately linked to the underlying attribute levels of that particular item. In other words, the bike labeled Sandy Beach was indeed the item with the optimal combination of attributes to deliver the benefits needed in attaining the consumption goal of riding in the dunes and along the coastline. In particular, the (accurately labeled) Sandy Beach bike has wide (2.35 in.) slick tires, disk brakes, Shimano Deore LX gear, no front nor rear suspension, and weighs 10.7 kg. Results from the pre-test conjoint analysis confirmed that this bike indeed has the highest utility for the given goal. In the third condition, the same goal-based labels were inaccurately linked to an item so that the attribute combination of that particular bike was not optimal to attain the prompted consumption goal.

To increase realism, we presented the MTBs using a bike-shape visual and three fictitious brands (see Figure 3.2). We used fictitious brands to avoid brand equity related confounding effects. To motivate realistic choices, we told participants that they would have to justify their choice in an open-ended question (Scheibehenne, Greifeneder, and Todd 2009). To avoid order effects, both the sequence of the brands and the four varieties within a brand were randomized. After being confronted with a scenario prompting the goal “to select a rental bike for a weekend of riding with friends along the coastline and in the sandy hills,” each participant was asked to choose from the given MTB assortment. Next, respondents had to justify their choice and indicate their general choice satisfaction: How satisfied are you with your choice? (1=“not satisfied at all” to 7=“totally satisfied”; Haynes 2009). As mentioned before, we opted for a general choice satisfaction

measure and not for either process satisfaction or outcome satisfaction. Afterwards, respondents answered items measuring (1) choice difficulty: How easy/ difficult was it for you to make a choice? (1="very easy" to 7="very difficult"Scheibehenne, Greifeneder, and Todd 2009) and (2) choice uncertainty: How certain are you that you made the right choice? (1="not at all certain" to 7="very certain"; Gourville and Soman 2005), which could be more associated with process satisfaction and outcome satisfaction, respectively.

FIGURE 2.2: SCREEN SHOT OF EXPERIMENTAL MTB ASSORTMENT

Assortiment merk	Assortiment merk	Assortiment merk

Model: "EDH"

Merk: Nusho
Frame:Aluminium
Vering vooraan: 120 mm
Achterdemper: 110 mm
Banden:brede noppenband (2,25 inch) met diep profiel
Remmen:hydraulische schijfremmen
Versnellingsgroep: Shimano Deore XT
Gewicht: 12,5 kg

Model: "SZA"

Merk: Ixso
Frame: Aluminium
Voorvering: 80mm
Achterdemper: geen
Banden:smalle noppenband (1,9 inch) met medium profiel
Remmen: hydraulische velgremmen
Versnellingsgroep: Shimano Deore SLX
Gewicht: 10,7 kg

Model: "Extreme jumper"

Merk: Quato "Extreme Jumper"
Frame: Aluminium
Voorvering: 140 mm
Achterdemper: 135 mm
Banden: brede noppenband (2,35 inch) met diep profiel
Remmen: hydraulische schijfremmen
Versnellingsgroep: Shimano Deore XT
Gewicht: 13,8 kg

Model: "QTP"

Merk: Nusho
Frame: Aluminium
Voorvering: geen
Achterdemper: geen
Banden: brede slick (2,35 inch) zonder profiel
Remmen: hydraulische velgremmen
Versnellingsgroep:Shimano Deore LX
Gewicht: 12,1 kg

Model: "THG"

Merk: Ixso
Frame: Aluminium
Vering vooraan: 130 mm
Achterdemper: 120 mm
Banden: brede noppenband met diep profiel
Remmen: hydraulische schijfremmen
Versnellingsgroep: Shimano Deore XT
Gewicht: 12,9 kg

Model: "Sandy Beach"

Merk: Quato "Sandy Beach"
Frame: Aluminium
Voorvering: geen
Achterdemper: geen
Banden: brede slick (2,35 inch) zonder profiel
Remmen: hydraulische velgremmen
Versnellingsgroep:Shimano Deore LX
Gewicht: 10,7 kg

Model: "LLG"

Merk: Nusho
Frame: Aluminium
Voorvering: 100mm
Achterdemper: geen
Banden:smalle noppenband (1,9 inch) met medium profiel
Remmen: hydraulische velgremmen
Versnellingsgroep: Shimano Deore SLX
Gewicht: 12,5 kg

Model: "OKG"

Merk: Ixso
Frame:Aluminium
Vering vooraan: 100 mm
Achterdemper: 120 mm
Banden:brede noppenband (2,25 inch) met diep profiel
Remmen:hydraulische schijfremmen
Versnellingsgroep: Shimano Deore XT
Gewicht: 11,4 kg

Model: "Mountain conqueror"

Merk: Quato "Mountain Conqueror"
Frame:Aluminium
Vering vooraan: 100 mm
Achterdemper: 100 mm
Banden:brede noppenband (2,25 inch) met diep profiel
Remmen:hydraulische schijfremmen
Versnellingsgroep: Shimano Deore XT
Gewicht: 10,9 kg

Model: "BDR"

Merk: Nusho
Frame: Aluminium
Vering vooraan: 160 mm
Achterdemper: 165 mm
Banden:brede noppenband met diep profiel
Remmen: hydraulische schijfremmen
Versnellingsgroep: Shimano XT
Gewicht: 14,7 kg

Model: "PFR"

Merk: Ixso
Frame: Aluminium
Voorvering: geen
Achterdemper: geen
Banden: brede slick (2,35 inch) zonder profiel
Remmen: hydraulische velgremmen
Versnellingsgroep:Shimano Deore LX
Gewicht: 11,3 kg

Model: "Muddy Woods"

Merk: Quato "Muddy Woods"
Frame: Aluminium
Voorvering: 100mm
Achterdemper: geen
Banden:smalle noppenband (1,9 inch) met medium profiel
Remmen: hydraulische velgremmen
Versnellingsgroep: Shimano Deore SLX
Gewicht: 11,5 kg

2.4 RESULTS

To test the hypotheses and to fully understand the choice process as a function of assortment labeling (no, accurate, or inaccurate) and expertise (novice or expert), we included multiple dependent variables. First, we study the choice that consumers make in different conditions. Specifically, we assess whether consumers make the optimal choice (i.e., select the MTB with the highest utility for the prompted goal); if not, we additionally evaluate the distance of the selection from the optimal choice in terms of utility. Second, we content coded the reasons that consumers listed for selecting a particular bike; thus, we can evaluate the extent to which respondents in different conditions explain their choice by referring to attributes, labels, a mix of the two, or other reasons. Third, we study self-reported choice outcomes: choice uncertainty, choice difficulty, and choice satisfaction.

2.4.1 CHOICE

To test H1a, we test whether the labeling manipulation affects the proportion of optimal choices. Among novices, the proportion of optimal choices varies significantly across labeling conditions ($chi^2(2)=29.9$, $p<.001$), whereas among experts it does not ($chi^2(2)=.881$, $p=.644$). To investigate the effect more closely, we first compare the number of optimal choices among novices and experts in the no-label assortment and the accurate goal-based label assortment. Among novices, 8.9% of respondents choose the optimal alternative when goal-based labels are absent (which is very close to 8.3%, the percentage expected if respondents would randomly pick one of the 12 options). In the assortment with accurate goal-based labels, significantly more novices make an optimal choice (47.3%; $chi^2(1)=17.36$, $p<.001$). The labeling effect does not occur for experts, where 72.4% versus 72.9% make an optimal choice in the absence versus presence of accurate goal-based labels, respectively ($chi^2(1)=.003$, $p=.955$).

Since we expect inexperienced consumers to rely on goal-based labels without taking attributes into account, we also hypothesized that inaccurate goal-based labels would guide the choice of novices. As predicted, in the assortment with inaccurate goal-based labels, a large part of the novices (45.9%)[3] "blindly" select the option indicated by the goal-based label that corresponds to the goal triggered in the choice task (despite the fact that this option is not the optimal alternative). Experts are clearly not "fooled" by the inaccurate labeling; 64.8% keep on selecting the optimal alternative (despite the fact that the goal-based label that corresponds to the goal triggered in the choice task, suggests another alternative) versus 72.4% in the unlabeled condition ($chi^2(1)=.349$, $p=.348$). These findings support H1a.

To test H1b, we compare the number of optimal choices for novices versus experts in the accurately and inaccurately labeled assortments. In the latter experimental condition goal-based labels were inaccurate (i.e., the item did not deliver the benefits needed to satisfy the goal the label suggests). Among novices, in the inaccurately labeled assortment the amount of optimal choices drops to 9.8%, which is significantly lower than

[3] Compared to 24.4% of novices who selected the same choice option in the unlabeled condition ($chi^2(1)=5.127$, $p<.05$)

in the accurately labeled assortment (where it was 47.3%; chi²(1)=20.29, *p*<.001). The MTB inaccurately labeled Sandy Beach was selected by 45.9% of the novices in the inaccurate label condition (as opposed to 14.5% of the novices who selected this suboptimal option when it did not carry this label, i.e., in the accurately labeled condition; chi²(1)=13.29, *p*<.001). Among experts, in the inaccurately labeled assortment, the amount of optimal choices is 64.8%, and not significantly different from the accurately labeled condition (chi²(1)=.858, *p*=.354). The MTB inaccurately labeled Sandy Beach was selected by 7.4% of the experts in the inaccurate label condition, compared to 1.7% of the experts who selected it when it was not labeled that way (chi²(1)=2.18, *p*=.140), indicating only a very weak, nonsignificant label attraction effect.

To further understand how goal-based labels influence choice, we also test whether a non-goal-based label increases the chances of an option of being chosen. Our results show that this is not the case—neither for novices, nor for experts. After excluding respondents who made the optimal choice or who selected the bike inaccurately labeled Sandy Beach, the bikes that were labeled in the accurate and inaccurate labels conditions were selected more often in the unlabeled condition (than in the labeled conditions).[4] In other words, we find that a non-goal-based label does not increase the chances of an option of being selected. We also check whether the presence of goal-based labels induces learning effects (i.e., whether the labels instruct respondents about the importance of the underlying attributes for achieving the goal specified in the label). If this would be the case, respondents confronted with a goal-labeled assortment who do not make the optimal choice would nevertheless choose a bike with a higher utility for the given goal than when there are no goal-based labels. The data show that this is not the case: respondents who do not choose optimally, also do not choose a bike closer to that optimum due to the accurate labeling. We specify an ANOVA model where the utility of the selected bike is specified as the dependent variable and where expertise level (novice/expert), assortment label condition (no, accurate, inaccurate) and their interaction are the independent variables. We then estimate the model only for those respondents who did not make the optimal choice and who did not select the inaccurately labeled Sandy Beach bike. The results show that assortment condition does not affect choice utility (main effect F(2, 120)=1.22, p=.299; interaction effect F(2, 120)=.306, p=.737). Expertise level has a strong positive effect on choice utility (F(1, 120)= 42.54, p<.001), indicating that experts who made a suboptimal choice tended to select an item close to the optimal choice in terms of utility, irrespective of the assortment condition.

2.4.2 REASONS FOR CHOICE

In an open-ended question, respondents were also asked to explain how they had selected the chosen alternative (briefly indicate why you chose this particular mountain bike). These answers were content coded by two judges into the following categories (initial inter-rater correspondence 91.6%; discrepancies were resolved by discussion): (1) attributes (e.g., “choice of tires is most appropriate; weight is ok”); (2) label (e.g.,

[4] As this effect runs counter to the ad hoc hypothesis on labeling and given the small expected values in some cells (<5), we do not statistically test this effect.

"just because the name is in line with the terrain I need to ride on"); (3) labels and attributes ("The name indicates that you can ride on the beach with it and also because of the tires"); (4) guess ("don't have a clue"); (5) other (including references to the picture, e.g., "looks best," and hard to classify reasons not fitting the previous content codes, e.g., "intuition"). Table 1 displays the results of the coding by condition.

The results in Table 1 indicate that experts focus very much on attributes (ranging from 93% to 97% across conditions). Many novices also report attribute-based reasons for their choice (51% to 56%), but also use the labels (16% to 21%) or a mix of labels and attributes (2% to 11%), which is in line with H1a. Among novices, the inaccurate labels seem to lead to an increase in the reporting of guesses and non-content related reasons. Furthermore, the fact that more novices use the combination of labels and attributes in the accurately labeled condition than in the inaccurately labeled condition may suggest that some novices make an initial selection based on the labels and then try to interpret this selection in terms of the attributes. In the absence of goal-based labels, novices often resort to guessing (27%) or providing reasons not related to attributes, labels, or guessing (i.e., "other," 20%).

TABLE 2.1: CONTENT CODING RESULTS (ROW PERCENTAGES)

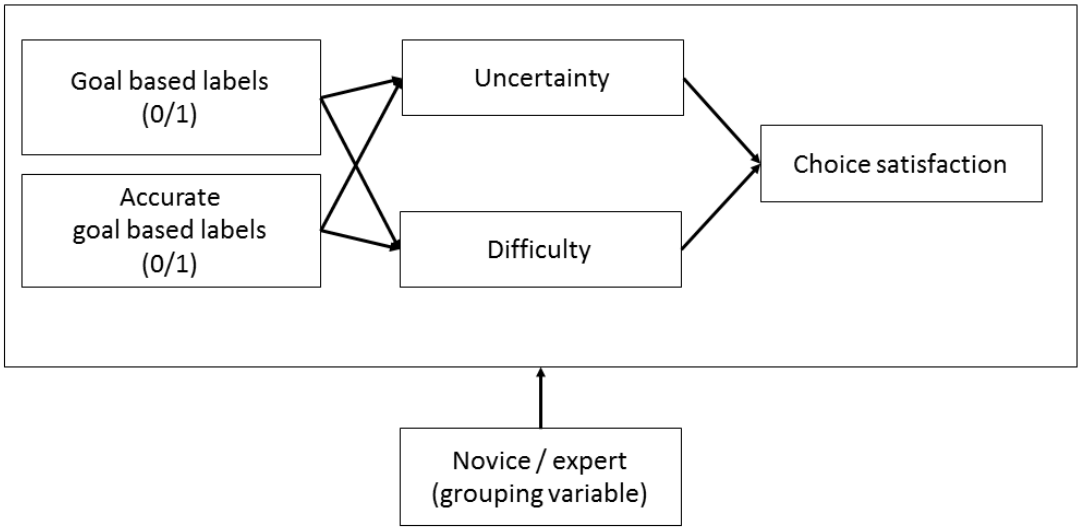
Condition		Attributes	Label	Labels and attributes	Guess	Other	Total	Total (N)
No labels	Expert	97%			2%	2%	100%	60
($X^2(2) = 28.24$, $p<.001$)	Novice	53%			27%	20%	100%	45
Accurate labels	Expert	93%	0%	3%	0%	3%	100%	59
($X^2(4) = 26.93$, $p<.001$)	Novice	56%	16%	11%	4%	13%	100%	55
Inaccurate labels	Expert	94%	0%	2%	2%	2%	100%	54
($X^2(4) = 28.67$, $p<.001$)	Novice	51%	21%	2%	7%	20%	100%	61
Total		75%	7%	3%	6%	10%	100%	334

2.4.3 CHOICE OUTCOMES

To study the effect of assortment type and expertise on choice uncertainty, choice difficulty and choice satisfaction, we specify a path model in AMOS 18.0. Figure 3 displays the model. The outcomes (choice uncertainty, choice difficulty and choice satisfaction) are regressed on assortment type. For assortment, we specify two dummy variables (0/1), one differentiating between the unlabeled assortments and the labeled assortments (both accurately and inaccurately labeled), and another one differentiating the accurately labeled assortment from the other conditions. For the unlabeled assortment, both dummies take on a value of zero. This way, we can estimate the effect of mere goal-based labeling (dummy 1) as well as the additional effect of accurate goal-based labeling (dummy 2). Expertise is used as a grouping variable, so we simultaneously obtain different model estimates for novices and experts, allowing us to assess moderating effects of expertise level.

First, starting from the unconstrained model (which is saturated, as difficulty and uncertainty are freely correlated), we test whether the goal-based labeling effects on choice satisfaction are fully mediated by uncertainty and difficulty. This appears to be the case: the direct effects of the dummy variables for goal-based labeling and accurate goal-based labeling are nonsignificant (all p>.30). And when fixing those direct effects to zero in both groups, model fit does not significantly deteriorate (chi² (4)=3.26, p=.525). This indicates that the effect of goal-based assortment on choice satisfaction is fully mediated by choice difficulty and/or choice uncertainty. Table 2 presents estimates for the mediated model. The total effects in Table 2 indicate the overall impact of the labeling dummy variables (goal-based labels and accurate goal-based labels) on choice satisfaction as mediated by uncertainty and difficulty (cf. Fig. 3); the significance of total effects can be assessed through bootstrapping.

FIGURE 2.3: OPERATIONAL MODEL OF THE CHOICE OUTCOMES AS A FUNCTION OF ASSORTMENT AND EXPERTISE LEVEL



NOTE.–the unlabeled assortment is the reference condition. Residual terms and covariances are not shown for readability.

In line with H2, the total effect of goal-based labeling on choice satisfaction is positive and significant for novices, but not for experts. As an additional effect (that was not hypothesized), we find that accurate goal-based labeling has an additional significantly positive impact on choice satisfaction among novices. In terms of mediation of the assortment effects among novices, we find that choice difficulty is not a significant mediator, as its impact on choice satisfaction is not significant (and the impact of goal-based labeling on choice difficulty is only marginally significant). Thus, H3 is not supported[5]. We also note that the (in) accuracy of the labels does not significantly influence choice difficulty. Among novices (but not among experts) choice uncertainty is

[5] To test for multicollinearity, we computed the correlation between choice uncertainty and choice difficulty. No indication of substantial collinearity was found, with condition indices <10 [1.00, 3.20, 8.81]; novices r=-.35, experts r=-.33)

significantly and negatively affected by goal-based labeling. Additionally, choice uncertainty has a significant negative effect on choice satisfaction. Hence, in line with H4, among novices (but not among experts) choice uncertainty mediates the positive effect of goal-based labeling on choice satisfaction. In addition, we note that—for novices, but not for experts—the latter effect is strengthened by using accurate goal-based labels. Among experts, choice satisfaction is driven by choice difficulty and uncertainty, but difficulty and uncertainty are not significantly affected or inaccurate) goal-based labeling/or inaccurate) goal-based labeling.

TABLE 2.2: MODEL ESTIMATES

			Novice				Expert				Group difference	
	Dependent variable	Independent variable	B	SE	T	p	B	SE	t	p	t	p
Total effects	Choice satisfaction	Goal-based labeling	0.59	0.18		0.002	0.05	0.15		0.361		
		Accurate goal-based labeling	0.44	0.21		0.010	0.01	0.16		0.423		
Direct effects	Choice difficulty	Goal-based labeling	-0.68	0.42	-1.64	0.051	-0.02	0.35	-0.06	0.476	1.22	0.112
	(R^2 = .12)	Accurate goal-based labeling	0.23	0.40	0.57	0.284	-0.03	0.35	-0.09	0.463	-0.49	0.312
	Choice uncertainty	Accurate goal-based labeling	-0.90	0.38	-2.37	0.009	-0.02	0.25	-0.07	0.474	1.94	0.026
	(R^2 = .36)	Goal-based labeling	-1.27	0.40	-3.19	0.001	-0.09	0.25	-0.36	0.358	2.50	0.006
	Choice satisfaction	Choice uncertainty	-0.48	0.05	-9.26	0.000	-0.53	0.051	-10.3	0.000	-0.91	0.183
	(R^2 = .38)	Choice difficulty	0.03	0.05	0.60	0.275	-0.12	0.049	-2.46	0.007	-2.67	0.004

NOTE.–Total and direct effect estimates are non-standardized (as the model includes dummy variables). The SE and p-values for the total effect estimates are bootstrap estimates (hence the absence of t-values). Labeling variables are dummy variable (0 = No, 1 = Yes). All p-values are one-sided. The group difference t- and p-values test the null hypotheses that the parameters for the novice and expert groups are identical.

2.5 DISCUSSION

Research has demonstrated that the structure of an assortment can affect choice satisfaction. Whereas previous research concentrated on product- and attribute-based assortment structures, this paper takes on a consumer perspective and investigates the effect of goal-based labeled assortments on consumer satisfaction. The results of an online quasi-experiment indicate that for inexperienced consumers goal-based labeling indeed increases choice satisfaction. Choice certainty appears to mediate this positive effect of goal-based labeling on choice satisfaction. We also expected, but did not find, a mediating effect of choice difficulty. A possible explanation for the absence of this hypothesized effect (H3) could be that the respondents perceived our "general" satisfaction measure as more related to the choice outcome than to the choice process. Future research should include a more detailed satisfaction measure to shed light on this issue. Furthermore, since we only identified one partial mediator (choice certainty) underlying the effect of goal-based labels on choice satisfaction, further studying this underlying process is a fruitful avenue for future research. For example, how do product perceptions and inferential mechanisms affect choice outcomes in the presence and absence of goal-based labels?

For experienced consumers, no effect of goal-based labeling on choice satisfaction was observed. This supports the idea that experts are less guided by extrinsic cues (like descriptive brand names) as they dispose of cognitive schema that allow them to easily link intrinsic cues like attribute bundles and levels to specific goals (Rao and Monroe 1988; Russo and Johnson 1980) and process information at a "deeper" attribute level (Alba and Hutchinson 1987).

We also observe that labels lead novices to make similar choices, but (compared to accurate labels) inaccurate labels increase uncertainty and reduce satisfaction. Although we did not hypothesize this effect, it is an interesting finding since it suggests that goal-based labels may enable/motivate novices to process at a deeper, attribute-focused level. Since previous literature has suggested that novices are not likely to process assortments at an attribute level (Alba and Hutchinson 1987), this finding may deserve further research attention. Possibly, novices make an initial selection of choice alternatives based on labels and next try to interpret them in terms of their attributes, trying to construct a basic theory to make sense of the relation between labels and attributes. In line with the reason-based choice concept (Shafir, Simonson, and Tversky 1993), this basic theory may allow novices to construct reasons to justify their decision. In constructing such theories, inaccurate labels may conflict with novices' limited prior knowledge, resulting in uncertainty and dissatisfaction. As they are likely to doubt their own knowledge, they may tend to go by the labels, but feel uncertain about the quality of their choice nevertheless. In the case of inaccurate labels, product experience may reveal to novices that specific attributes are not well suited to fulfill the suggested/hinted goal inducing post-purchase dissatisfaction. To avoid these possible post-purchase backlashes, companies should make sure to gain a deep knowledge of what attributes actually make a given product suit or fail to suit the suggested consumer goal.

On a more general managerial level our findings suggest that companies can optimize the buying experience of novice consumers by adding a goal-based branding layer to their product brands. More specifically, marketing professionals could benefit from finding out which consumption goals consumers aim for with respect to their specific products, and from incorporating these goals in their brand labels. Focus group research and trend watching is likely to help companies to identify the appropriate goals to highlight in brand labels.

What makes goal-based labeling particularly interesting is that it helps novices a lot, both in terms of making the correct choice as in terms of learning more about the category and the value of the product attributes. Moreover, according to our results it does not hinder experts in any way. However, the question is whether this is always the case. An interesting idea for future research could be to investigate situations in which goal-based labeling might induce negative effects in experts. For example, although we did not observe a negative effect of inaccurate labels in the short term, such labels might trigger a decline in brand trust in the long-term. Secondly, experts may have the tendency to ignore labels and directly focus on underlying attributes. This overconfidence could lead experts to discard useful information captured in the goal-based label. Furthermore, if the goal-based labels become too familiar or too congruent with experts' expectations, they may actually heighten a "feeling of knowing" and promote complacency errors (Reder and Ritter 1992). Making the choice process too easy might impede experienced consumers to engage in learning and actually lower satisfaction (Poynor and Wood 2010).

The study's limitations also offer other routes for future research. Firstly, we sourced expert and novice respondents for our experiment from two different sources. As a result, these two groups might differ from each other on important variables other than product expertise, such as product involvement and task involvement. Future research might attempt to replicate our findings in a random sample of respondents that differ only in their level of expertise. To improve external validity, future research should aim to replicate the current results for other product categories, other goals, and include multiple (possibly conflicting) goals. Future research should also concentrate on what happens if the goal-based labels a firm uses do not match a given consumer's goals. Would this prompt deeper attribute level processing, even among novices, in an effort to find the attributes they really need, or would they simply reject the assortment altogether? As already touched upon above, future research may also benefit from more precisely disentangling satisfaction with the choice process and with the choice outcome. For example, during the choice process, time measures, think aloud protocol counts of arguments considered, and physiological measures of effort can shed more light on choice difficulty.

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3

WHEN GOAL-BASED ASSORTMENTS LEAD TO GOAL-INCONSISTENT CHOICES

3.1 INTRODUCTION

Assortment planning is a key business process for retailers (Broniarczyk and Hoyer 2010). This process entails not only selecting how many and which items to carry (Chernev and Hamilton 2009), but most of all, how to organize these items within categories (Kahn and Wansink 2004). From a retailer's perspective, assortment organization is an important tactical tool to increase perceived variety without necessarily increasing the number of items carried (Hoch, Bradlow, and Wansink 1999; Kahn and Wansink 2004; Morales

et al. 2005), increase the likelihood consumers will choose to patronize the store (Hoch, Bradlow, and Wansink 1999) and enhance the likelihood consumers will purchase from the assortment (Diehl 2005; Diehl, Kornish, and Lynch 2003; Huffman and Kahn 1998). From a consumer's standpoint, assortment organization helps to better assess the full range of available options (Kahn and Wansink 2004), decreases the complexity of choosing from the assortment (Huffman and Kahn 1998), and increases satisfaction (Hoch, Bradlow, and Wansink 1999).

Assortments can be organized in many different ways (Poynor and Wood 2010). Yet, most types of organization fall into one of two categories: taxonomic versus goal-based (Chernev 2012). A taxonomic organization involves grouping items based on shared attributes and characteristics (Rosch and Mervis 1975). A goal-based organization involves grouping items based on the underlying goal they serve (Barsalou 1985; Ratneshwar, Pechmann, and Shocker 1996). An illustration of this distinction is offered by car rental company Hertz. On their website (www.hertz.com), they offer consumers the option to browse the assortment either using a taxonomic organization (i.e. by type of vehicle: sedan, SUV, commercial van, etc.), or a goal-based organization (i.e. by consumption goal: green traveler collection, prestige collection, adrenaline collection).

A considerable body of research in marketing has explored the impact of taxonomic organizations on consumer behavior. For example, scholars have studies the effects of organizing items by brand or by features on consumer price sensitivity (Simonson, Nowlis, and Lemon 1993), by attribute or by alternative on choice satisfaction (Huffman and Kahn 1998), by broad versus narrow categories on subsequent, unrelated decisions (Ülkümen, Chakravarti, and Morwitz 2010), by expected versus unexpected formats on consumer learning (Poynor and Wood 2010). Yet, surprisingly little research has focused on goal-based organizations (Ratneshwar, Pechmann, and Shocker 1996), a troublesome gap given that retailers have increasingly started to organize their assortments based on consumption goals (Chernev 2012), in order to better align with consumers' decision processes, which are largely goal-driven (Van Osselaer and Janiszewski 2012). To illustrate, Safeway has recently started to organize its wines based on consumption goals, such as food pairing and special occasions, rather than by attributes, such as country-of-origin or grape (Gallagher 2012).

Furthermore, previous literature as well as managerial wisdom has implicitly assumed that goal-based organizations help direct shoppers to the item that maximizes performance on the desired goal (Broniarczyk 2008; Morales et al. 2005). To illustrate, consumers who are looking for a 'green', eco-friendly car should be more likely to choose the most eco-friendly car when the assortment is organized by goals (e.g., 'green', 'adventure', 'sports' categories) than when it is randomly ordered. Yet, this argument has never being empirically tested, thus the question of how goal-based organizations influence which item consumers choose remains largely unexplored.

In this research we provide an initial exploration into how goal-based organizations influence consumer choice from an assortment. Contrary to the intuitive belief that goal-based organizations help direct consumers to the item within the assortment that maximizes performance on the desired goal, we suggest that goal-based organizations might in fact reduce the likelihood that consumers choose the option that offers

maximum goal attainment. To illustrate, we predict that consumers who are looking for a 'green', eco-friendly car are less likely to choose the most eco-friendly car when the assortment is organized by goals (e.g., 'green', 'adventure', 'sports' categories) than when it is simply randomly ordered.

We argue this occurs because goal-based organizations are likely to make the items grouped together appear equivalent in terms of their instrumentality for goal achievement, a phenomenon we term *goal-based similarity*. As a result, consumers will have a hard time discriminating among the options based solely on the focal goal, and will therefore turn to other, goal irrelevant benefits to make their final choice. Ultimately, this might mean that consumers choosing from an assortment organized by goals might end up with an item that is less consistent with their focal goal, compared to consumers choosing from the same randomly ordered assortment. The data from four empirical studies support our predictions.

3.2 CONCEPTUAL BACKGROUND

3.2.1 ASSORTMENT ORGANIZATION

The term assortment typically refers to the number of products offered by a retailer (Levy and Weitz 2006). Two fundamental elements characterize any assortment: size and structure. Size refers to the breadth (i.e., the number of categories) and depth (i.e., the number of items within a category) of the assortment (Baumol and Ide 1956). Structure refers to the way products are grouped and organized within the assortment (Kahn and Wansink 2004). Specifically, assortment structure entails three key dimensions: the degree of similarity between the items (Hoch, Bradlow, and Wansink 2002; Van Herpen and Pieters 2002), the relative frequency (or entropy) of the items (Kahn and Wansink 2004; Shannon and Weaver 1949), and the organization of the items (Hoch, Bradlow, and Wansink 1999; Kahn and Wansink 2004). In this research we focus on the latter.

Prior research suggests that organizing assortments offers numerous benefits. Kahn and Wansink (2004) have shown that adding organization to a large assortment leads to increased perceptions of variety, as organization helps consumers recognize and appreciate the differences among the various options. Importantly, consumers are also more likely to choose stores that are perceived as offering greater variety, because of products being displayed in an organized manner (Hoch, Bradlow, and Wansink 1999). Moreover, the way in which a set of options is organized can have a significant effect on consumers' overall judgments. For example, retailers who choose to organize their assortment by product attribute rather than alternative-by-alternative can reduce the perceived complexity of making a decision, leading to higher customer satisfaction (Huffman and Kahn 1998).

Typically, assortments can be organized in two different ways: taxonomic versus goal-based organizations (Chernev 2012). Taxonomic organizations group items based on their inherent characteristics such as brand, size, or type (Rosch and Mervis 1975). As a result, items within a taxonomically organized category share many physical features (Bettman and Sujan 1987; Meyers-Levy and Tybout 1989). Within these taxonomic categories items are mostly displayed in taxonomic subcategories such as by product type or brand. For example, in a taxonomic organization all cereal items will be placed together, subdivided by brand or type of cereal. In contrast, retailers often arrange their products not by type, but based on the underlying consumer goal they serve. The resulting categories are referred to as goal-derived categories (Ratneshwar, Pechmann, and Shocker 1996). For example, cereal might be displayed together with milk and other types of products in a goal-based "breakfast" category.

Organizing items by goals can be done at the level of the total assortment or within a single product category. Goal-based organizations at the total assortment level typically include items from different taxonomic categories (Ratneshwar, Pechmann, and Shocker 1996). For example, a diet corner might include healthy items from fairly diverse product categories such as cereals, fruit, yoghurt, soup and snacks. Goal-

based organizations within a single product category, however, call for arranging items not by brand or subtype of product (i.e., taxonomic), but by the underlying consumer goal they serve.

A wine shop nicely illustrates the difference between taxonomic and goal-based organizations. Some wine shops opt for a taxonomic organization of their assortment, whereby the wines are grouped by their features and characteristics such as country of origin, color, or type of grape. Other wine shops opt for a goal-based organization of their assortment, whereby the wines are grouped by the consumption goals they serve, such as food pairing, occasion, or budget.

A considerable body of research in marketing has investigated how different taxonomic organizations influence shoppers' behavior. In particular, previous research has investigated how organizing items by brand or by feature influences consumers' desire for variety (Simonson and Winer 1992) and choice shares of specific items (Simonson, Nowlis, and Lemon 1993). Furthermore, previous research has explored how organizing items by attribute or by alternative influences choice satisfaction (Huffman and Kahn 1998), how exposure to broad versus narrow categories affects subsequent unrelated decisions (Ülkümen, Chakravarti, and Morwitz 2010), and how expected versus unexpected assortment organizations impact consumer learning and satisfaction (Poynor and Wood 2010).

Yet, surprisingly little research has investigated how goal-based organizations influence shoppers' behavior. This gap seems relevant given that retailers have increasingly started to recognize that taxonomic organizations are often poorly aligned with consumers' decision processes, which are largely goal-driven (Van Osselaer and Janiszewski 2012). Thus, many retailers have started to adopt goal-derives organizations, and organize their assortments based on consumption goals (Chernev 2012).

The sparse work on goal-based organizations has mainly focused on its impact on consumer perceptions of the assortment in general. For example, goal-based organizations have been found to decrease perceived variety of the overall assortment (Morales et al. 2005; Poynor and Diehl 2007), increase the satisfaction with the items offered (Morales et al. 2005) and increase consumers' price sensitivity (Poynor and Diehl 2007). Nevertheless, an important question has thus far been neglected. In particular, whether assortment organization also determines which specific item consumers choose remains largely unaddressed.

3.2.2 Choice Based on Goals

Which item consumers choose from a given assortment depends on their preferences. Importantly, preferences are highly context-dependent (Tversky and Kahneman 1981) and can shift as a result of the composition of the assortment (Huber, Payne, and Puto 1982; Tversky and Simonson 1993). Furthermore, even when the composition of the assortment remains stable, consumers' goals might heavily influence preferences (Van Osselaer and Janiszewski 2012). In particular, consumers prefer items that help satisfy an active goal (Markman and Brendl 2000), while devalue other items (Brendl, Markman, and Messner 2003).

Organizing assortments by consumer goals could therefore be especially helpful in directing consumers to the option that best fits their preferences.

A goal-based organization helps consumers bypass goal-irrelevant items and focus only on the smaller set of items that are instrumental for a certain active goal. By reducing the choice set, goal-based assortments might therefore decrease choice difficulty (Payne 1976; Shugan 1980) and increase the likelihood that consumers are able to identify the "optimal" choice alternative (Diehl, Kornish, and Lynch 2003; Lurie 2004). Note that in this paper, we only consider situations in which a consumer chooses a single item from an assortment to satisfy a single goal. Therefore, based on the goal-based model of choice (Van Osselaer and Janiszewski 2012), in this research we consider as optimal that alternative within the assortment that offers maximum performance on that single, active goal.

In this research, we argue that goal-based organizations might actually hinder consumers from selecting the item that offer maximum performance on an active goal. We suggest this occurs because when items within an assortment are grouped by the underlying goal they serve, they appear more similar in terms of their instrumentality for goal achievement. This notion follows from the early work of Barsalou (1982, 1985) which shows that items that normally seem very different from one another because of their taxonomic properties (e.g., record album and necklace) are perceived to be more similar when the common goals they serve are made salient (e.g., "possible gifts").

Ratneshwar et al. (2001) also demonstrated that activating a goal makes goal-appropriate items appear more similar. For instance, when a health goal is salient, respondents consider a granola bar to be closer to fruit yogurt than to a candy bar. Similarly, if a goal for convenience was salient, an apple was more similar to a donut than to an orange. Felcher, Malaviya, and McGill (2001) showed that consumption items (e.g., ice cream – Big Mac) are perceived as more similar when a goal-based category label (e.g., 'things to eat as an indulgence') highlighted the items' relational features. Based on these findings, we argue that goal-based assortment organizations will increase the perceived similarity of grouped items in terms of their instrumentality to achieve the goal (see also Poynor Lamberton and Diehl 2013a). We label this phenomenon an increase in *goal-based similarity*.

As a result of increased goal-based similarity, goal-relevant attributes become less diagnostic for making a choice (Feldman and Lynch 1988). As a consequence, if consumers have difficulty choosing between seemingly homogenous options (Dhar 1997; Tversky and Shafir 1992), they may resort to other available information to make their choice. In choice sets where items are characterized by attribute trade-offs, consumer preference might shift to an item that has lower values on focal goal attributes in favor of higher values on competing goal attributes. Consequently, consumers might be less likely to choose the goal-maximizing option when faced with goal-based assortment organizations rather than other types of organization.

We empirically test the proposed effect of goal-based organizations on consumer choice of the goal-maximizing item in a series of four experiments. Experiment 1 documents the goal-inconsistency effect across a variety of product categories and consumer goals. Experiment 2 offers evidence in support of the goal-based similarity mechanism underlying the proposed effects. The third experiment tests whether the effects are limited to organizations for which the goal-based nature is made explicit. Finally, Experiment 4 further investigates the underlying mechanism by examining consumers' preferences for items that have higher values on focal goal versus competing goal dimensions.

3.3 EXPERIMENT 1

The goal of Experiment 1 was to test the proposition that goal-based organizations, compared to randomly ordered choice sets, decrease the likelihood that consumers choose the item that offers maximum goal attainment.

3.3.1 METHOD

One hundred and seventeen individuals (53.9% female, 46.1% male; 32.5% < 25 years, 41.0% 25-40 years, 23.1% 41-65 years, 3.4% > 65 years) recruited from an online pool of paid US respondents were randomly assigned to one of two experimental conditions. In the first condition, respondents were presented with assortments in which the items were displayed in a random order. In the second condition, respondents were presented with the same items but displayed according to a goal-based organization. To illustrate, cars were organized in three goal-based subsets: "green", "adventure", and "sports" cars (see appendix A). We randomized the presentation order of the goal-based subsets as well as of the items within each subset.

Each respondent made choices in four product categories: cars, carry-on luggage, cereal, and MP3 players. The presentation order of the categories was randomized across respondents. Each assortment consisted of six items, described on five attributes: three common attributes, one attribute representing the focal-goal (e.g., eco-friendliness for cars) and one attribute representing a competing goal (e.g., power for cars). We selected the competing goal attribute based on its natural negative correlation with the focal goal attribute. For example, there is a natural trade-off between a car's eco-friendliness and its engine power, or between a cereal's healthiness and its tastiness. Performance ratings on the focal and competing goal attributes were expressed on a scale ranging from one to five stars, with a higher score indicating higher performance on that attribute. Scores on the focal goal and competing goal attributes were negatively correlated, such that higher performance on one attribute implied lower performance on the other. The common attributes were non-compensatory attributes such as "automatic transmission", "4 year warranty", and "built-in navigation system" for cars. The choice sets were designed so that there was one option in the set offering maximum goal attainment: the goal-maximizing item. Product categories, attributes and attribute values are presented in appendix B.

Before making their choice, respondents were given a specific consumption goal for each product category. For example, before choosing among cars, respondents were asked to imagine that they were looking to buy a car and they were particularly concerned about its environmental impact. The other goals were transportability for carry-on luggage, healthiness for cereal, and portability for MP3 players.

3.3.2 RESULTS AND DISCUSSION

Each respondent made four product choices, yielding a total of four hundred and sixty-eight data points. The dependent measure of interest was the choice share of the goal-maximizing option in each product category. The choice shares of the goal-maximizing option across experimental conditions, summarized in table 3.1, are consistent with our predictions. To illustrate, in the car category, 74.6% of respondents who were exposed to the randomly ordered assortment chose the goal-maximizing option. When the assortment was organized by goals the relative share of the goal-maximizing option dropped to 49.1%. This shift in preferences is consistent with the hypothesis that goal-based organizations actually reduce the likelihood that consumers choose the option from the set that offers maximum goal attainment.

TABLE 3.1: CHOICE SHARES EXPERIMENT 1

TABLE 3.1

CHOICE SHARE OF THE GOAL-MAXIMIZING OPTION AS A FUNCTION OF ASSORTMENT ORGANIZATION (EXPERIMENT 1)

	Experimental condition	
	Random Organization	Goal-based Organization
Cars	74.6%	49.1%
Luggage	62.5%	39.6%
Cereal	65.6%	41.5%
MP3 Players	57.8%	43.4%
Overall	65.1%	43.4%

NOTE.–Results reported are the choice shares of the goal-maximizing option by type of assortment organization and product category. Within each row, choice shares differ significantly at the $p<.05$ significance level based on Chi square tests.

We tested the significance of these results using a Generalized Estimating Equations (GEE) approach (Zeger and Liang 1986; Zeger, Liang, and Albert 1988). The GEE procedure is an extension of the generalized linear model that allows to analyze the effect of between-subject factors (here the effect of the type of assortment organization) on binary outcome data (here the choice share of the goal-maximizing item) while controlling for within-subject factors (here type of product category). Comparing choice shares of the goal-maximizing item in the randomly organized assortment condition and its share in the condition in which assortments were organized by goals reveals that, across product categories, the relative choice share of the goal-maximizing item dropped from 65.1% in disorganized assortments to 43.4% in goal-based assortment organizations. Results of the GEE analysis shows that this difference is significant ($\chi^2(1) = 10.41$, $p < .01$).

We argued that goal-based organizations would guide individuals to those options that best serve their active goal, but reduce the likelihood of choosing the goal-maximizing item. Since the goal-based organizations in our study consisted of subsets of two options, it follows that choice shares should shift to the other item in the goal-based subset. The data confirm this prediction. Across categories, the choice share of the second item in the goal-based subset increased from 23.0% in the randomly organized to 41.5% in the goal-based organized assortment (χ^2 (1) = 8.96, $p < .01$).

Overall, the data furnished by experiment 1 lend support to the proposition that a goal-based organization of assortments can shift consumer preferences away from the choice option that best serves an active goal. Consistent with our theoretical predictions, we found that, across a variety of product categories and consumption goals, randomly organized assortments lead to higher choice probabilities of the goal-maximizing item compared to goal-based organizations.

We previously argued that organizing items by the underlying goal they serve increases their perceived similarity. In particular, items that are grouped together based on a certain goal will be perceived as equally instrumental for goal attainment. As a result, goal-relevant choice dimensions become less diagnostic and individuals shift their focus to other, goal-irrelevant dimensions, which could explain the preference shifts found in experiment 1. The second experiment was designed to test this underlying mechanism. More specifically, experiment 2 aims to reduce the effect of goal-based organizations through a choice task manipulation that reduces the goal-based similarity of items in goal-based organizations.

3.4 EXPERIMENT 2

Building on the findings reported in the first experiment, the goal of experiment 2 is to provide direct evidence for the mechanism that underlies the preference shifts in goal-based organizations. We argue that organizing assortment by goals increases the perceived similarity of grouped items in terms of their instrumentality for goal attainment. We test this proposed mechanism by measuring goal-based similarity perceptions in randomly organized assortments versus goal-based organizations.

Additionally, we wanted to test whether goal-based similarity perceptions drive the preference shifts found in the first experiment. Previous research has shown that a choice task manipulation in which individuals choose by rejecting unwanted items rather than select wanted items from an assortment can significantly reduce the perceived similarity of grouped items (Chakravarti, Janiszewski, and Ülkümen 2006; Levin, Jasper, and Forbes 1998). In experiment 2 we use a similar paradigm to reduce perceived similarity of grouped items in a goal-based organization. If increased goal-based similarity underlies the choice effects found in experiment 1, these effects should be less likely to occur under the rejection choice task.

3.4.1 METHOD

One hundred and sixty five individuals (42.4% women, 57.6% men; 23.0% < 25 years, 44.9% 25-40 years, 30.3% 41-65, 1.8% > 65) sourced from an online pool of paid US respondents were randomly assigned respondents to the conditions of a 2 (task: choose vs. reject) x 2 (assortment organization: random vs. goal-based) between-subjects design. Respondents in the random assortment organization condition were presented with a randomly organized choice set consisting of six items. Respondents in the goal-based condition were given the same six items, yet organized in three subsets based on the underlying consumption goal they serve.

The research design is similar to the one used in the first experiment for these conditions, except that we also include a second factor: the choice task. In one condition, respondents were asked to select their most preferred option from the available alternatives. In the other condition, respondents were asked to reject all unwanted items until only their most preferred option remained.

Each respondent made a choice in four different product categories. For each product category, respondents first read a scenario in which we activated a specific consumption goal. The product categories and consumption goals were cars (eco-friendliness), MP3 players (portability), toothpaste (cavity protection), and vitamins (energy boost). The design of the choice sets was similar to the first experiment.

To examine the role of goal-based similarity perceptions, we informed respondents, after they made their choice, that their chosen item was not available anymore. Next, respondents reviewed the remaining five items and selected their second most preferred item. After each choice we asked respondents to indicate to which extent their chosen item was instrumental for attaining the prompted goal (100-point scale ranging

from ‘not at all’ to ‘completely’). This allowed us to compute a goal-based similarity measure by subtracting the perceived instrumentality of respondents’ second choice from that of their first choice. Therefore, a lower score on the goal-based similarity measure indicated a greater goal-based similarity. We predicted that goal-based similarity should be higher for goal-based organizations, but not when the choice task of rejecting unwanted items reduced the impact of grouping items (Chakravarti, Janiszewski, and Ülkümen 2006).

3.4.2 RESULTS AND DISCUSSION

Each of the 165 respondents made four choices, resulting in 654 observations (six missing data points). The dependent measure of interest was the relative choice share of the goal-maximizing item. We predicted that organizing the assortment by goals would reduce the likelihood of choosing the goal-maximizing item. However, we also predicted that this effect would be mitigated when the choice task reduced similarity effects of grouping items together, as is the case for a rejection task.

The choice shares of the goal-maximizing item, summarized in table 3.2, are consistent with our experimental predictions. In particular, when asked to select their most preferred item (‘select’ task), respondents were less likely to choose the goal-maximizing item when the assortment was organized by goals (39.3%) then when the assortment was randomly organized (85.6%). In contrast, when the choice task involved rejecting unwanted options, respondents were equally likely to end up with the goal-maximizing item in both the randomly organized (89.9%) and the goal-based condition (91.3%). The same data pattern was found in all four tested product categories.

To test the significance of these results, we specified a Generalized Estimating Equations model (GEE) predicting choice of the goal-maximizing item as a function of the choice task, the organization of the assortment and their interaction, with product category included as a within-subjects variable. Results show that both experimental factors, choice task ($\chi^2(1) = 17.30$, $p < .001$) and assortment organization ($\chi^2(1) = 7.17$, $p < .01$), significantly affect the likelihood of choosing the goal-maximizing option. More importantly, the impact of assortment organization (random versus goal-based organization) on choice shares of the goal-maximizing item showed a significant interaction with the type of choice task ($\chi^2(1) = 9.70$, $p < .01$).

Subsequent pairwise comparisons of the estimated marginal means revealed that choice shares of the goal-maximizing option were significantly lower in goal-based versus randomly organized assortments when respondents selected ($p < .001$) but not when they rejected items ($p > .05$). These data are in line with our predictions.

To further scrutinize the role of similarity perceptions, we analyzed the goal-based similarity measures across conditions. We predicted that grouping items by goal would increase their perceived goal-based similarity, but only in the selection task. When the task involved rejecting unwanted items, goal-based

similarity perceptions should be lower since grouped items should be perceived as belonging to one group to a lesser extent (Chakravarti, Janiszewski, and Ülkümen 2006).

TABLE 3.2: CHOICE SHARES EXPERIMENT 2

TABLE 3.2

CHOICE SHARE OF THE GOAL-MAXIMIZING OPTION AS A FUNCTION OF ASSORTMENT ORGANIZATION AND CHOICE TASK (EXPERIMENT 2)

	Experimental condition			
	Selection Task		Rejection Task	
	Random Organization	Goal-Based Organization	Random Organization	Goal-Based Organization
Cars	88.6%	32.5%	92.9%	89.1%
MP3 players	82.9%	36.6%	88.1%	89.1%
Toothpaste	91.4%	47.6%	90.6%	95.7%
Vitamins	79.4%	40.0%	88.1%	91.3%
Combined	85.6%	39.3%	89.9%	91.3%

NOTE.–Results reported are the choice shares of the goal-maximizing option by type of assortment organization, choice task and product category.

We computed goal-based similarity as the difference between the first and second chosen item's perceived instrumentality to achieve the underlying goal. A lower score indicates greater similarity, with zero suggesting that both items are perfect substitutes for attaining the goal. In line with our expectations, the data show that respondents in the selection task perceived greater goal-based similarity between their first and second choice when choosing from goal-based (M = 1.16, SD = 11.29) rather than disorganized assortments (M = 7.33, SD = 8.07). When respondents chose by rejecting items, we found the opposite pattern. In particular, respondents who rejected unwanted items perceived greater similarities in disorganized (M = 7.14, SD = 9.65) rather than organized assortments (M = 10.64, SD = 9.36).

We used the same GEE model to test the significance of these results, but now with goal-based similarity as dependent variable. Results show that the effect of assortment organization on goal-based similarity is qualified by a two-way interaction with choice task ($\chi^2(1) = 19.75$, $p < .001$). Pairwise comparisons confirmed that goal-based similarity was significantly higher in goal-based compared to random organizations of the assortment ($p < .001$), but only in the select task. When the choice task involved rejecting unwanted items, no significant differences were found ($p > .05$).

The data reported in this experiment are consistent with the finding of the previous experiments that, compared to randomly organized assortments, a goal-based organization decreases the likelihood that

individuals choose the item that is most instrumental to fulfill their active goal. Results from the current experiment add to the previous experiment by demonstrating the role of goal-based similarity perceptions in explaining those findings. In particular, the data show that when respondents are asked to make a choice from an assortment by selecting their most preferred option given their active goal, the effect of goal-based organizations on goal-consistency in choice persist. However, when respondents made a choice from the same set of items by rejecting unwanted options – a manipulation designed to reduce the similarity of grouped items – no differences were found in choice share of the goal-maximizing item between randomly organized and goal-based assortments.

Analysis of goal-based similarity perceptions of respondents' first and second most preferred options points to the underlying role of goal-based similarity in the relationship between goal-based organizations and goal-consistency in choice. Specifically, we find that respondents perceive their first and second choice as being more equally instrumental for goal fulfillment when items were organized according to the goal they serve than when they were randomly organized. We found this difference only when the choice task encouraged respondents to view grouped items as being one group.

We have argued so far that the effects found in the first two experiments are contingent on the fact that items are organized explicitly by goals. This goal-based organization makes grouped items appear more equally instrumental for goal attainment. In the first two experiments this organization by goals was made explicit through goal-based labels (e.g., "green" versus "adventure" cars) that grouped items together. In a third experiment, we wanted to test the importance of these goal-based labels. In particular, we expected that a similar assortment organization in which the goal-based nature was not made salient through such labels, would not produce the same effect. Research on assortment organization suggests merely grouping items together (Goldstone, Lippa, and Shiffrin 2001), irrespective of the informativeness of the category labels (see also Mogilner, Rudnick, and Iyengar 2008), might increase similarity perceptions and lead to the demonstrated preference reversals. To rule out this rival explanation, we designed experiment 3 in which we explicitly manipulate the category labels so that the goal-based nature of the assortment organization is highlighted or not.

3.5 EXPERIMENT 3

We have demonstrated so far that, relative to randomly organized assortments, assortments in which items are organized by goals decrease the likelihood that consumers choose the item that best serves their goal. In this experiment we want to further test the role of the goal-based nature of the assortment organization by manipulating its salience through the category labels.

3.5.1 METHOD

One hundred and twenty one members (55.0% women, 45.0% men; 18.3% < 25 years, 55.0% 25-40 years, 25.9% 41-65, 0.8% > 65) of an online pool of paid US respondents participated in this experiment. We randomly assigned each respondent to one of two experimental conditions. Respondents in the first condition were asked to make choices from goal-based assortment organizations, those in the second condition were confronted with the same assortments yet organized by brand.

Each respondent made a choice in two product categories: cars and MP3 players. Prior to making each choice, respondents read a scenario in which a specific consumption goal was given. Product stimuli, consumption goals and goal-based assortment organizations were identical to the ones used in experiment 1 for the car and MP3 player category (e.g., for cars the items were grouped in “green”, “adventure”, and “sports” cars). Unlike in the first experiment, we included a condition in which the items were taxonomically organized by brand (“brand A”, “brand B”, and “brand C”).

Note that the same items were grouped together in both conditions. As a result, only the label of each group differed between conditions. To illustrate, in the car category the same two items were grouped as “green” cars in the goal-based condition, and as “brand A” in the by brand condition (see Appendix C). As a result, the category labels made either the relational features of grouped items more salient (goal-based labels) or the attributional features (brand labels) (Felcher, Malaviya, and McGill 2001).

3.5.2 RESULTS AND DISCUSSION

Each respondent made two product choices, resulting in two hundred and forty data points. The dependent measure of interest was the relative choice share of the goal-maximizing item (i.e., the item most instrumental for attaining the focal consumption goal). The choice share data of experiment 3 are consistent with our predictions. Across product categories, the choice share of the goal-maximizing item was larger in the taxonomic (63.3%) compared to the goal-based condition (33.3%).

As in the first experiment, goal-based organizations drove choice shares away from the goal-maximizing item towards the runner-up item (i.e., the second item in the goal-based group). In the car category, when the assortment was organized by brand, the choice share of the goal-maximizing item was 70.5% compared to

21.3% for the runner-up item. In contrast, in the goal-based organization condition the choice share of the goal-maximizing item dropped to 36.7% in favor of the runner-up item (48.3%). Choice share data of the MP3 player assortment showed a similar pattern. Respondents choosing from a goal-based organization were more likely to choose the runner-up (58.3%) than the goal-maximizing item (30.0%). In contrast, those for whom the assortment was organized by brand preferred the goal-maximizing (55.7%) over the runner-up item (23.0%).

A Generalized Estimating Equations model was specified with type of assortment organization as between-subjects and product category is within-subjects factor. Results of this GEE model reveal that the choice share of the goal-maximizing item was significantly lower in the goal-based organization compared to the organization by brand (χ^2 (1) = 18.29, $p < .001$). Similarly, the choice share of the runner-up option was significantly higher in the goal-based organization versus the assortment by brand (χ^2 (1) = 25.02, $p < .001$).

The data reported in this experiment lend further support to the proposition that organizing assortments can affect goal-consistency in choice. More important, the data show that goal-inconsistent choices are especially likely when assortments are explicitly organized by goals. These results suggest that goal-consistency in choice is not only a function of whether the assortment is organized or not (experiments 1 and 2), but also of the type of organization. In particular, we find that, compared to an organization by brand, goal-based organizations significantly reduce the choice share of the goal-maximizing item. This finding is in line with the notion that goal-based category labels increase the grouped items' similarity by making their relational properties more salient (Felcher, Malaviya, and McGill 2001).

Taken together, the experiments so far have demonstrated that organizing assortments by goal leads to goal-inconsistency in choice as grouped items become more similar with respect to that goal. This line of thought is based on the assumption that, because of the greater goal-based similarity, goal-relevant dimensions of the items become less diagnostic. Consequently, individuals might shift their focus to other, goal-irrelevant dimensions when making a choice. As a result, in decision sets characterized by attribute trade-offs consumers might end up choosing an item that scores lower on goal-relevant attributes in favor of higher values on goal-irrelevant attributes. We sought additional support for this account in experiment 4.

3.6 EXPERIMENT 4

Experiment 4 further tests the proposition that the impact of goal-based organizations on choice can be attributed to increased goal-based similarity, such that consumers shift their focus to goal-irrelevant dimensions when making a choice. This proposition is tested by examining whether, across types of assortment organization, consumers focus on goal-relevant or –irrelevant dimensions when making a choice. Whereas in previous experiments respondents made a choice from a given assortment, we now confronted respondents with an assortment and gave them a default choice option. Starting from this default, respondents could then trade-up to an option that was superior either on the goal-relevant or goal-irrelevant dimension. We expected that compared to disorganized assortments, goal-based organizations shift preferences towards the goal-irrelevant dimension.

3.6.1 METHOD

One hundred and forty four members of a paid US panel participated in an online survey. We randomly assigned respondents to the conditions of a 2 (assortment organization: random vs. goal-based) x 2 (choice dimension: goal-relevant vs. goal-irrelevant) between-subjects factorial design. Before moving to the experimental conditions, each respondent was primed with a "green consumption" goal. To this end, we presented respondents with six book covers, each accompanied by a short summary. We asked respondents to carefully inspect each book cover and read the summaries. Three of the six books were explicitly related to "green consumption". Next, respondents were asked to reference one book in particular (*"Practically Green: Your Guide to Eco-Friendly Decision Making"*). We also asked them to write a paragraph reflecting on why this book is more popular today than ever.

Next, respondents moved on to one of the four experimental conditions. Respondents were asked to image that they were renting a car and were given an assortment consisting of six options. Depending on the condition, the assortment was organized randomly or by goals. The goal-based assortment consisted of two goal-based subsets ("green" cars and "adrenaline" cars), each consisting of three items. Similar to the previous experiments, each item was described along five dimensions; three common attributes, one goal-relevant dimension (eco-friendliness), and one goal-irrelevant dimension (power).

Before making their choice, we informed respondents that the car rental company suggested one specific car as the default choice. All respondents were given the same default: the car that scored second highest on the goal-relevant dimension (eco-friendliness: five out of seven stars), and second lowest on the goal-irrelevant dimension (power: two out of seven stars).

Respondents were then offered the opportunity to 'trade-up' from the default option to a better option. Half of the respondents were given the possibility to trade-up to the option that was superior to the default option on the goal-relevant dimension (one extra star on eco-friendliness), while the others were asked whether they wanted to trade-up on the goal-irrelevant dimension (one extra star on power). We measured

respondents' likelihood of switching on a 5-point scale ("*How likely is it that you will trade-up?*"; 1 = "very unlikely," and 5 = "very likely"). Respondents also indicated how much they would be willing to pay for the trade-up option on top of the rental price of $45 per day for the default option.

This experimental design allowed us to examine whether respondents were more likely to switch to and pay for an option that had higher values on goal-relevant or on goal-irrelevant dimensions, depending on the assortment organization. Since we argue that goal-based organizations increase goal-based similarity of grouped items, additional performance on the goal-relevant dimension should be valued less than a similar increase on the goal-irrelevant dimension. For randomly organized assortments, in contrast, we did not expect such a similarity effect to occur. Therefore, additional performance on goal-relevant dimensions should still be preferred over additional performance on goal-irrelevant dimensions.

3.6.2 RESULTS AND DISCUSSION

We expected that respondents confronted with a goal-based assortment organization would be more likely to prefer items that are superior on goal-irrelevant dimensions, whereas those presented with a random organization would prefer items superior on goal-relevant dimensions. The data, summarized in figure 3.1, confirm this prediction.

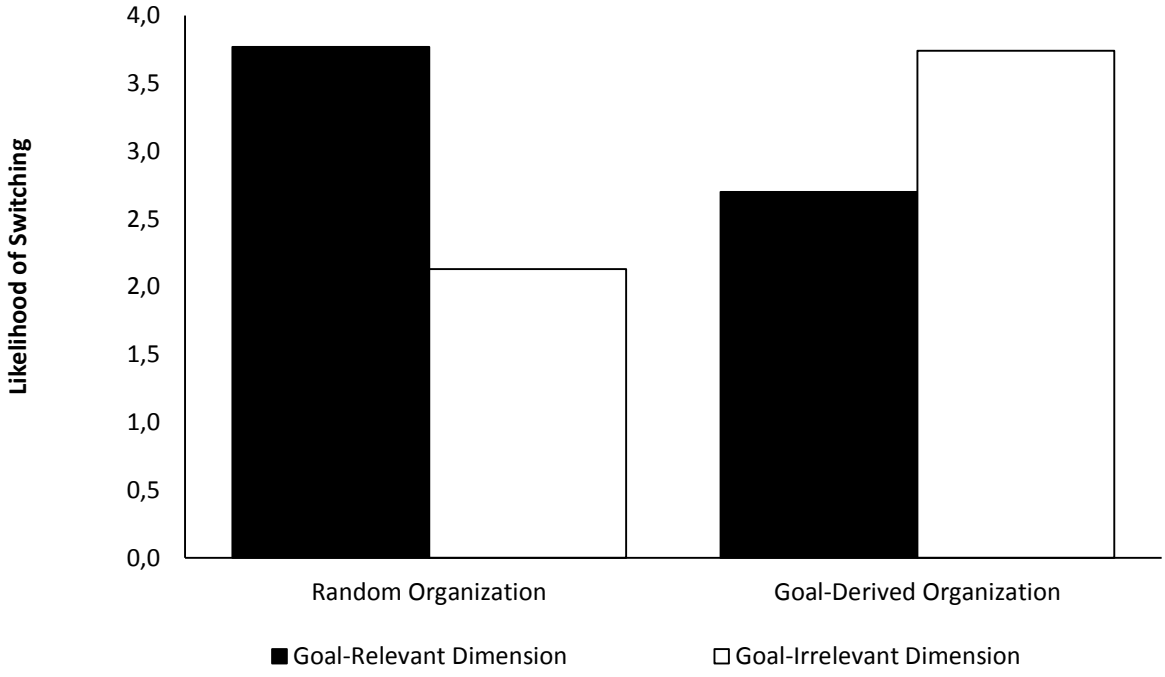
Results from an analysis of variance reveal that the effect of type of assortment organization on the likelihood of trading-up is qualified by a two-way interaction with the trade-up dimension ($F(1, 140) = 58.77$, $p < .001$). In particular, when the assortment was organized by goals, respondents were more likely to trade-up on the goal-irrelevant dimension ($M = 3.78$, SD = 1.05) than on the goal-relevant dimension ($M = 2.70$, SD = 1.08; $F(1, 67) = 17.92$, $p < .001$). In contrast, for randomly organized assortments, respondents preferred to upgrade along the goal-relevant ($M = 3.77$, SD = 1.01) rather than goal-irrelevant dimension ($M = 2.13$, SD = 1.12; $F(1, 73) = 44.17$, $p < .001$). These findings provide further support for the notion that goal-based organizations shift consumers' preference to goal-irrelevant features of the items within the assortment.

We also examined whether respondents' willingness to pay for additional performance on goal-relevant versus goal-irrelevant dimensions was a function of assortment organization. The data summarized in figure 3.2 confirm this relationship. Furthermore, the interaction effect between assortment organization and trade-up dimension was significant ($F(1, 140) = 23.59$, $p < .001$), indicating that the respondents valued the trade-up dimensions differently depending on the type of assortment organization.

More specifically, in randomly organized assortments respondents had a higher willingness to pay for an item superior on the goal-relevant dimension ($M = 18.66$, SD = 21.33) than for an item superior on the goal-irrelevant dimension ($M = 4.03$, SD = 9.80; $F(1, 73) = 12.65$, $p < .01$). However, when the assortment was

FIGURE 3.1: LIKELIHOOD OF SWITCHING (EXPERIMENT 4)

FIGURE 3.1
LIKELIHOOD OF SWITCHING AS A FUNCTION OF ASSORTMENT ORGANIZATION AND CHOICE DIMENSION (EXPERIMENT 4)



NOTE.–In goal-derived assortments, respondents were more likely to switch to an option that is superior on a goal-irrelevant dimension compared to one that is superior on goal-relevant dimensions. The opposite pattern was found for respondents confronted with a randomly organized assortment.

organized by goals, respondents were willing to pay more for additional performance on goal-irrelevant (M = 16.00, SD = 16.75) rather than goal-relevant dimensions (M = 5.06, SD = 7.99; $F(1, 67) = 11.64$, $p < .01$).

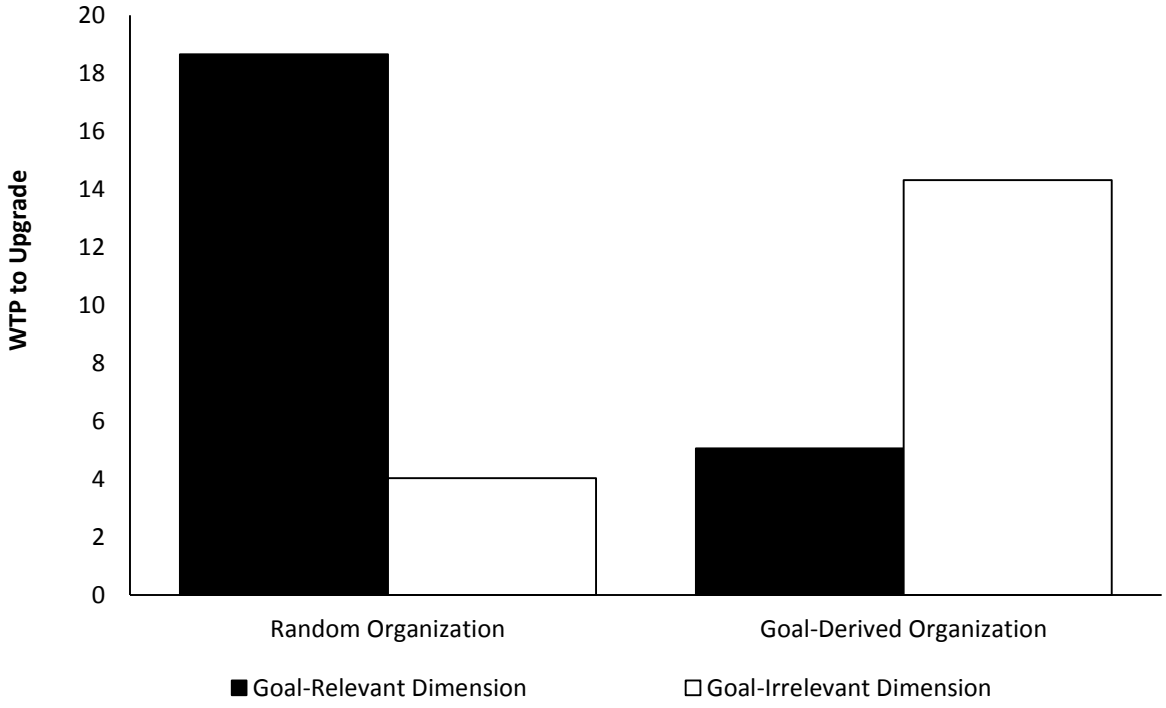
Results from experiment 4 show that respondents were more likely to give up the default choice option for another option that is superior on *goal-relevant* dimensions, but only when the assortment was randomly organized. When a goal-based organization was added to the assortment, preference switched to an option that was superior on *goal-irrelevant* dimensions. A similar pattern of results was found for respondents' willingness to pay for these options.

We attribute these preference reversals to the increased goal-based similarity that stems from organizing items by goals, as documented in experiment 2. Since grouped items will be perceived as more equally instrumental for goal attainment, goal-relevant dimensions become less diagnostic as a criterion to discriminate between options. Therefore, consumers shift their focus to other dimensions on which the items

are still perceived as being sufficiently different. This process eventually leads to the goal-inconsistency effect we documented throughout the four experiments presented in this paper.

FIGURE 3.2: WILLINGNESS-TO-PAY (EXPERIMENT 4)

FIGURE 3.2
WILLINGNESS-TO-PAY AS A FUNCTION OF ASSORTMENT ORGANIZATON AND CHOICE DIMENSION (EXPERIMENT 4)



NOTE.–Respondents were willing to pay more for an option that is superior on the goal-relevant dimension when the assortment was randomly organized rather than organized by goals. The opposite pattern was found for options superior on the goal-irrelevant dimension.

3.7 GENERAL DISCUSSION

An important decision retailers face involves whether and how to organize their assortment. In general, there are two types of assortment organization: a taxonomic organization in which products are grouped by their features and a goal-based organization in which items are grouped by the underlying consumption goal they serve. The research presented in this article examines how such goal-based assortment organization affects consumer choice of a particular item within the assortment. Although goal-based organizations are often used to direct consumers to the option that offers maximum goal attainment, this research shows such organizations might create the opposite effect.

Four empirical studies document the impact of goal-based assortment organizations on consumer choice across a variety of product categories and consumption goals. In particular, we demonstrate that compared to randomly organized assortments (experiments 1, 2 and 4) or assortments organized by brand (experiment 3), consumers choosing from goal-based organizations are less likely to choose the goal-maximizing item.

In addition to demonstrating that the choice of a particular option is contingent on the type of assortment organization, we show that a similarity effect drives these results. In particular, we show that grouping items by the underlying consumption goal they serve increases their goal-based similarity, being their perceived similarity in terms of their instrumentality for fulfilling that goal (experiment 2). When the choice task was designed such that similarity effects were less likely to occur, perceived goal-based similarities were reduced and the effect of goal-based organizations on choice was mitigated.

We further theorized that the increase in goal-based similarity in goal-based organizations makes goal-related attributes less diagnostic for choice. Since the items grouped in a goal-based subset are no longer perceived as being different on the goal-relevant dimensions, other, goal-irrelevant dimensions might be used as choice criterion. As a result, consumers shift their preference to those items in the goal-based subset that score higher on goal-irrelevant attributes, even if this means that they have to give up performance on the more important goal-relevant attributes (experiment 4).

In addition to the theoretical contributions, this research has important managerial implications for both retailers and manufacturers. For retailers, our results point to the pivotal role of assortment organization in determining which particular item consumers choose. The current research casts a shadow over the practice of retailers to use goal-based organizations as a tool for directing consumers to the item that maximizes their current goals. In particular, the findings presented in this article imply that this practice might actually prevent consumers from choosing the goal-maximizing item. To illustrate, a retailer that groups together all healthy products in a diet corner might encourage calorie-conscious consumers to focus less on calories and more on other attributes when making their choice. As a result, these consumers might end up with an item that has higher calorie content than when they would have made their choice from a differently organized assortment.

This research also has important implications for manufacturers selling products that are geared towards specific consumption goals. In this context, our findings imply that developing a product that has highest performance on goal-relevant attributes might be a sub-optimal strategy. In particular, the results suggest that when consumers choose from goal-based assortments, they are less likely to choose the goal-maximizing item. In other words, manufacturers should think twice when creating their products and not focus on merely maximizing goal-relevant product dimensions while neglecting goal-irrelevant attributes.

Note that the observed effect might be generalized beyond goal-based organizations within the same product category. Since consumers also create goal-based categories that include items from diverse product categories (Ratneshwar, Pechmann, and Shocker 1996), a similar effect on choice might occur in such situations. In this context, goal-based categories might increase the perceived similarity of grouped items on the abstract level of the consumption goal they serve, even if they are highly dissimilar on concrete attributes (Felcher, Malaviya, and McGill 2001).

Another factor that might cause the goal-inconsistency effect documented in this paper is assortment size. In particular, consumers faced with a large assortment might be more likely to reduce the choice set to only those items that are most relevant to their active goal before making their final choice. Consequently, similar preference switches might occur within these self-created goal-based subsets. Investigating how across-category considerations and assortment size affect goal-consistency in choice is a fruitful venue for future research.

As an important final note, we want to discuss a plausible alternative explanation for the effects found in this research. Throughout this research we focused on goal-based similarity as underlying factor driving the effect of goal-based assortments on choice. In particular, we put forth that grouping items together in goal-based subcategories increases their perceived similarity in terms of how instrumental they are for satisfying that goal. Nevertheless, one could argue that displaying assortments in a goal-based format might stimulate a more sequential choice process compared to random displays. Indeed, when consumers have a single goal in mind and make a choice from a randomly organized assortment, they might screen all options on their instrumentality for goal achievement and select the most instrumental item. When, however, the assortment is organized such that it *clearly informs* consumers about which items are instrumental for their active goal, consumers might first limit their focus to this subset of items alone, and only then – in a second step – make a final choice from those items.

Such a sequential choice process would allow consumers to achieve goal fulfilment in a first step, merely by choosing within the subset of goal-relevant items. As a result of this goal fulfilment, consumers might consider other, secondary goals when making their final choice from the assortment. As a result, they might end up with a choice option that is more balanced, i.e., that offers satisfaction on more than one goal. This might also explain why, across the experiments reported in this article, choice shares of the goal-maximizing item in goal-based assortments tend to be below 50%. Indeed, if similarity would be the only factor underlying the choice reversals demonstrated in our studies, choice shares might be more evenly split between the two

items within the relevant goal-based subcategory. Future research might further examine whether the difference in choice between goal-based versus randomly organized assortments is the result of consumers' perceptions of the similarity of grouped items or of a difference in choice process that consumers adopt.

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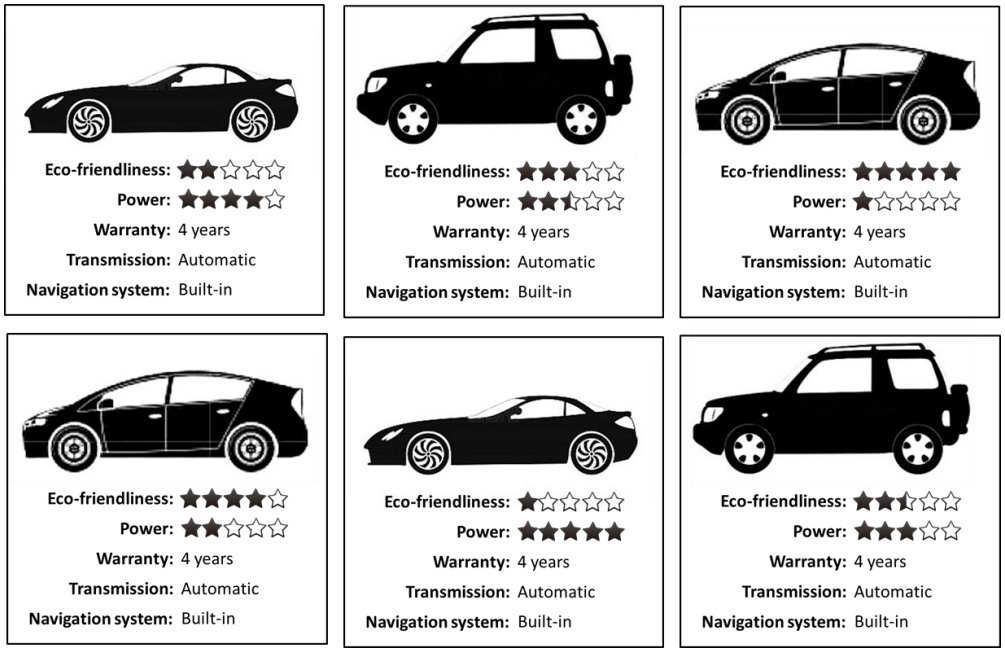
3.9 APPENDIX

APPENDIX A: EXAMPLE STIMULI STUDY 1

Condition 1: Random organization

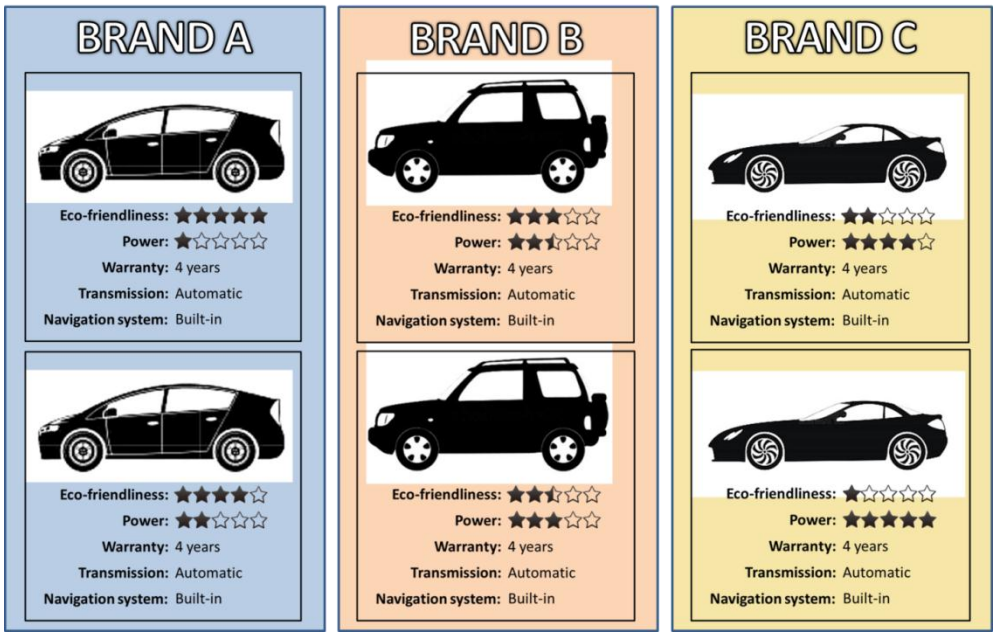


Condition 2: Goal-Based organization

APPENDIX B: OVERVIEW STIMULI STUDY 1

	CARS	**LUGGAGE**	**CEREAL**	**MP3 PLAYERS**
Focal Goal Attribute	*Eco-friendliness*	*Transportability*	*Healthiness*	*Portability*
Competing Goal Attribute	*Power*	*Sturdiness*	*Tastiness*	*Memory*
Common Attribute 1	Automatic transmission	Size	17 ounce box	USB connection
Common Attribute 2	4-year warranty	4-wheel spinners	Whole grains	12 hour battery life
Common Attribute 3	Built-in navigation	2-stop extension handle	Gluten free	Built-in equalizer

APPENDIX C: EXAMPLE STIMULI STUDY 3



4

A CLOSER LOOK AT THE PERCEIVED VARIETY OF A GOAL- VERSUS ATTRIBUTE-BASED ASSORTMENT

4.1 INTRODUCTION

Consumers' perceptions of assortment variety has consistently been one of the most significant factors determining choice between stores (Broniarczyk and Hoyer 2010). Despite the lure of offering more variety (Broniarczyk, Hoyer, and McAlister 1998; Kahn and Lehmann 1991; Oppewal and Koelemeijer 2005; Pan and Zinkhan 2006), large assortments can also have adverse effects since consumers might experience more difficulties when choosing from larger rather than smaller assortments (Chernev 2003a; Chernev 2003b; Dhar 1997; Iyengar and Lepper 2000; Tversky and Shafir 1992).

To address this paradox, research has examined ways to increase consumers' perceptions of the variety offered by an assortment without necessarily increasing its size. A central finding of this research is that an assortment's perceived variety is determined not only by its sheer size but also by how it is structured and organized (Hoch, Bradlow, and Wansink 1999; Kahn and Wansink 2004; Morales et al. 2005; van Herpen and Pieters 2007; Van Herpen and Pieters 2002). To illustrate, Mogilner, Rudnick, and Iyengar (2008) find that adding organization to an assortment, merely by creating subcategories within the assortment, can be enough to increase its perceived variety.

In general, assortments can be organized into subcategories in two ways: by shared attributes (i.e., taxonomic) or by shared benefits (i.e., goal-based). Most research on the impact of assortment organization on perceived variety has focused on attribute-based organizations (Hoch, Bradlow, and Wansink 1999; Kahn and Wansink 2004; Mogilner, Rudnick, and Iyengar 2008; Redden 2008). Recently, however, more and more firms are adopting a goal-based approach to organizing their assortment in an attempt to better match consumers' decision processes (Chernev 2012; Goedertier et al. 2012; Thompson 2010).

A recent article by Poynor Lamberton and Diehl (2013) is the first to discuss the impact of goal-based organizations on consumers' perceptions of the variety offered by an assortment. These authors find that – relative to attribute-based organizations – organizing an assortment by shared benefits might actually backfire and reduce perceived overall variety. The aim of the current paper is to build on the work of Poynor Lamberton and Diehl (2013) by taking a closer look at the notion of perceived overall variety and splitting it up into within-subcategory and between-subcategory similarities.

In particular, we find that, compared to attribute-based organizations, goal-based organizations decrease perceived variety *within* subcategories, but not necessarily reduce the perceived *overall* variety of the entire assortment. This notion is based on the proposition that goal-based assortments not only increase similarities within subcategories, but also increase the perceived differences *between* subcategories in the assortment. As a result, depending on the number of subcategories and the number of items each subcategory comprises, the perceived differences *between* subcategories might offset the perceived similarities *within* these subcategories and, eventually, lead to higher perceived *overall* variety in goal-based over attribute-based assortments. The theoretical rationale for these propositions, methodology, and data analyses are described in more detail in the following sections.

4.2 CONCEPTUAL BACKGROUND

Consumers' perceptions of the variety offered by an assortment is a central element driving choice among assortments or stores (e.g., Broniarczyk, Hoyer, and McAlister 1998; Hoch, Bradlow, and Wansink 1999), as well as choice from assortments (e.g., Kahn and Wansink 2004; Sela, Berger, and Liu 2009). Perceived variety has been conceptualized as a function of the perceived (dis)similarities between items within an assortment, such that greater dissimilarities lead to greater perceived variety (Hoch, Bradlow, and Wansink 1999). According to Tversky's (1977) contrast model, these (dis)similarities stem from the number of common and distinctive features between items. This suggests that an assortment will be perceived as offering greater variety if it holds a larger number of items or when the items are more distinctive from each other.

Nevertheless, the perceived variety of an assortment is not only influenced by its sheer size (e.g., Broniarczyk, Hoyer, and McAlister 1998, Van Herpen and Pieters 2002) and the distinctiveness of the options comprising the assortment (e.g., Hoch, Bradlow, and Wansink 2002; Hoch, Bradlow, and Wansink 1999; van Herpen and Pieters 2007; Van Herpen and Pieters 2002), but also by how it is organized (e.g., Hoch, Bradlow, and Wansink 1999; Kahn and Wansink 2004; Morales et al. 2005). This is because the way in which items are grouped might heavily influence similarity perceptions between those items (Medin, Goldstone, and Gentner 1993; Tversky 1977).

Tversky and Gati (1978) give the example of how people, when confronted with four countries (England, Iran, Syria, and Israel), might consider Israel more similar to England than to Iran, as it is easy to make sense of the list of countries by dividing it into two groups of Moslem (Syria and Iran) versus non-Moslem countries (England and Israel). However, Israel will be perceived as more similar to Iran rather than to England when the list of countries includes an item that stimulates the creation of different groups: England and France (European countries) versus Israel and Iran (Middle-Eastern countries). As this example illustrates, similarities are not only a function of the items themselves, but also of how they are organized (Tversky 1977; Tversky and Gati 1978).

In the context of a product category assortment, the number of ways in which items can be organized into different subcategories is practically without limits (Poynor and Wood 2010). Most of these subcategory formats, however, group items either by attributes or by benefits (Chernev 2012). Past research has mainly examined attribute-based formats, and discriminated between organizing items by brand or by feature (Simonson, Nowlis, and Lemon 1993), by feature or by alternative (Huffman and Kahn 1998), in broad versus narrow subcategories (Ülkümen, Chakravarti, and Morwitz 2010), or in expected versus unexpected formats (Poynor and Wood 2010).

Recently, however, retailers are also experimenting with another type of subcategory format, one that better reflects consumers' decision processes. Since consumers choose products not for their attributes but for the benefits they provide (Van Osselaer and Janiszewski 2012; Van Osselaer et al. 2005), many retailers are starting to organize product categories by benefits rather than by attributes (Chernev 2012; Poynor Lamberton

and Diehl 2013b). Such a goal-based format calls for grouping together items based on their ability to serve an underlying consumer goal, whereas attribute-based formats group together items based on shared features.

To illustrate, Safeway has recently decided to organize its wine category according to a goal-based format. In particular, it displays its wines by usage occasion like food pairing or special occasions, rather than in an attribute-based format such as by grape or country-of-origin (Gallagher 2012). Although such goal-based organizations appear to be especially useful in directing consumers to those items that best match their active goals (Broniarczyk 2008), they might also affect consumers' variety perceptions of the assortment.

Note that attribute-based grouping typically assign items to subcategories based on the presence of a specific attribute or attribute level (e.g., flavor, packaging size, or brand). Benefit-based organizations, on the other hand, group items based on their ability to satisfy a certain goal. An item's ability to satisfy a certain goal, usually follows from the combination of multiple attributes and attribute levels. In this sense, once could argue that goal-based assortments use more abstract, multidimensional rules for assigning a product to a certain subcategory, whereas the reason for subcategory membership in attribute-based assortments is less complex and depends on a single attribute.

In line with this, Poynor Lamberton and Diehl (2013) provided an initial examination of how attribute- versus goal-based assortments might affect consumers' variety perceptions. They found that, relative to attribute-based formats, organizing an assortment by goals leads to greater perceived similarities among items and, consequently, lower overall variety. These authors further used a causal-chain approach to provide evidence that a change in consumers' mindset (i.e., construal level; Trope and Liberman 2010) underlies these effects. In particular, Poynor Lamberton and Diehl (2013) argue that merely choosing from a goal- as opposed to an attribute-based assortment might shift a consumer's mindset to a more abstract level. As a result, consumers will tend to focus more on similarities between items, which should result in lower variety perceptions.

The purpose of the current paper, then, is to further develop this link between attribute- versus goal-based assortments and perceived variety by focusing more closely on the similarity construct underlying the very notion of categorization and (sub)categories (Medin, Goldstone, and Gentner 1993; Rosch and Mervis 1975; Tversky 1977). When discussing similarities, past research stresses the importance of distinguishing between within- and between-category similarities (Medin, Ross, and Markman 2004; Tajfel and Wilkes 1963). Overall similarity judgments, in the end, are integrate perceptions of both within- and between-category similarities (Medin, Goldstone, and Gentner 1993).

In their classic experiment, Tajfel and Wilkes (1963) demonstrate how being classified as a member of a group increased perceived similarities with other members of that same group, while increasing perceived differences with members of other groups. This within- versus between-category accentuation effect has been replicated in many judgment contexts such as colors (e.g., Goldstone 1995), attitudes (e.g., Eiser 1971), the valence of traits (e.g., Krueger and Rothbart 1990), and category exemplars (e.g., Goldstone 1994). Therefore,

we do not limit ourselves to just the perceived *overall* variety offered by an assortment. Instead, following the early work on within- and between-category similarities (Tajfel and Wilkes 1963), we break down overall variety into perceived similarities among items *within* and *between* subcategories of the assortment.

Since variety perceptions of an assortment are a function of perceived similarities among its items (Hoch, Bradlow, and Wansink 1999), this distinction between within- and between-subcategory similarity, we argue, is important when examining the impact of assortment organization on perceived overall variety, especially within a single product category. Within a given product category, items are de facto rather similar to each other in surface resemblance. To increase the perceived variety of the assortment offered in a single product category, organization formats should therefore increase dissimilarities among items either within a subcategory or between subcategories.

Categorization research suggests that different organization formats might indeed produce different within- and between-category similarity perceptions. In particular, compared to attribute-based groups, categorizing items in goal-based groups not only increases the perceived similarity of grouped items (Barsalou 1982), but can also decrease the similarity of items belonging to different groups, even if they are highly similar on surface level (Ratneshwar et al. 2001). To illustrate, Ratneshwar et al. (2001) found that a goal-based category of 'things to eat while driving a car', perceptually pulled apart two items that are highly similar on surface level: an apple and an orange. At the same time, the goal-based grouping pushed together physically dissimilar items such as an apple and a donut. Thus, by highlighting a certain benefit (e.g., 'convenience') the goal-based category label drastically shifted similarity perceptions among items. In line with this, Fitzsimons and Shah (2009) found that activating a certain goal encourages people to perceive others who are instrumental for achieving that goal as being more similar to each other, yet more dissimilar to others who are not goal relevant. Accordingly, creating a goal-based subcategory of 'healthy food' within a single product category assortment (e.g., bread) might decrease the perceived similarity between whole-grain bread (part of the 'healthy food' subcategory) and ordinary bread (not part of the 'healthy food' subcategory), even though these two items might appear highly similar on surface level (Ratneshwar et al. 2001).

To illustrate, a goal-based subcategory of 'wines to drink when eating red meat' might include wines with fairly diverse features (e.g., different grapes, country-of-origin, etc.). The goal-based subcategory label, however, highlights their similarity on a higher, more abstract level. Thus, this subcategory label makes higher-level information about the grouped products accessible, which can then serve as an input for similarity judgments (Higgins 1996; Mussweiler 2003). In the same vein, these goal-based labels might also create contrast between different subcategories, even when the wines from different goal-based subcategories share many features (e.g., same color, grape, country-of-origin), by underlining that these items are different in meaningful ways (i.e., use for food pairing). Therefore, placing a red wine in a subcategory labeled 'wines to pair with red meat' might create contrast between this red wine and a highly similar red wine that belongs to the subcategory 'wines to pair with cheese'.

Whereas previous studies on assortment variety perceptions mainly focused on perceived overall variety as measure of interest, our study zooms in on the effects of within- and between-category similarities on perceived overall variety. In particular, we argue that perceived overall variety is a function of similarities within subcategories, as well as between subcategories. Building on the notion that goal-based categories heighten similarity perceptions among items within subcategories (Barsalou 1982) but at the same time creates contrasts between those subcategories (Ratneshwar et al. 2001), we argue that goal-based organizations might increase – rather than decrease (Poynor Lamberton and Diehl 2013b) – perceived overall variety, depending on how that assortment is structured in term of breadth (i.e., the number of subcategories in the assortment) and depth (i.e., the number of items within each subcategory).

In this paper, we focus on the effects of assortment organization on variety perceptions for assortments within a single product category to avoid effects of cross-category decision making (Ratneshwar et al. 2001; Ratneshwar, Pechmann, and Shocker 1996). Thus, we expect that in a particular product category assortment consisting of a certain number of items (e.g., twenty), having a limited number of subcategories (e.g., two) consisting of a larger number of items (e.g., ten), might lead to lower perceived overall variety in goal-based compared to attribute-based organizations. A broader (e.g., ten subcategories) but more shallow (e.g., two items per subcategory) assortment, on the other hand, might draw more attention to the between-subcategory dissimilarities, resulting in higher perceived overall variety in goal-based compared to attribute-based organizations.

We further predict that goal-based assortments might increase variety perceptions only if consumers do not have an active goal in mind that maps onto the goals mentioned in the subcategory labels. When a specific consumption goal is activated (e.g., find a suitable wine for tonight's dinner), goal-based labels (e.g., based on food pairing) might act as a filtering mechanism. In other words, these labels direct consumers to only those items that are suitable for their active goal and, thus, limit the available assortment (Diehl, Kornish, and Lynch 2003). Attribute-based labels (e.g., based on country-of-origin), however, are not necessarily relevant as a filtering mechanism, since the attributes on which subcategories are formed do not directly map onto the consumer's active goal. Therefore, consumers might still process the entire assortment when making a choice from an attribute-based assortment. As a result, we expect that goal-based assortments will lead to lower perceived overall variety compared to attribute-based assortments if consumers can find a direct match between their active goal and one of the goal-based subcategories. We test these predictions in a series of three empirical studies.

4.3 EXPERIMENT 1

The goal of experiment 1 is to test the proposition that, compared to attribute-based organizations, goal-based organizations will increase the perceived similarity of items within subcategories, while also creating greater dissimilarities between subcategories. We also test whether the type of assortment organization affects perceived overall variety. Finally, following the findings of Poynor Lamberton and Diehl (2013), we also measure consumers' mindset (i.e., level of construal).

4.3.1 METHOD

A total of one hundred and thirty seven members of a pool of paid US respondents participated in this experiment. Within this sample, 49% were women and age ranged from 20 to 66 (M = 33.97, SD = 10.81). Respondents were asked to evaluate the assortment of an online tea shop consisting of twenty four different tea items. Respondents were randomly assigned to one of two conditions of a two-group between-subjects design in which we manipulated the type of organization of the tea shop assortment. In one condition the assortment was organized in subcategories by attributes ('green tea', 'black tea', 'herbal tea', and 'red fruit tea'), while in the other condition the same items were organized by benefits ('cardio-health tea', 'stress-relief tea', 'weight-loss tea', and 'energy-boost tea').

In both conditions, each of the four subcategories consisted of six items. Each tea was described on two dimensions, intensity and freshness, of which the values were randomly assigned across items. Presentation order of subcategories and items within categories were randomized between respondents (see appendix A for an overview of stimuli). The design of this experiment as well as its stimuli were modeled after those of Poynor Lamberton and Diehl (2013) (Experiment 2B), with the exception that we simultaneously presented all items on one page, whereas Poynor Lamberton and Diehl (2013) showed each subcategory on separate pages.

After having viewed the assortment as a whole, respondents moved on to evaluate the assortment in terms of its variety. We asked respondents to indicate (on a 7 point scale ranging from 1 = 'Strongly disagree' to 7 = 'Strongly agree') to what extent they agreed with statements concerning the overall similarity of items within the assortment offered by the tea shop ("Overall, the items within this assortment are very similar to one another"), the similarity of items within each subcategory ("Within each subcategory, all items are very similar to one another"), and how substitutable items are within ("Within each subcategory, items are good substitutes") and between subcategories ("Between subcategories, items are good substitutes"). We used this substitutability measure as a proxy for similarity (Goodman and Malkoc 2012).

Finally, we measured respondents' level of construal by having them indicate the likelihood that a person will perform a certain behavior (on a 7 point scale ranging from 1 = 'not likely' to 7 = 'very likely'), since a higher (lower) level of construal should reduce (increase) this likelihood (Poynor Lamberton and Diehl 2013b; Wakslak and Trope 2009). Respondents rated this likelihood across five different behaviors (e.g., 'Peter is

thinking about buying a new computer. How likely is he to do so?'), and a construal level score was computed by averaging these ratings.

4.3.2 RESULTS

We argued that, compared to attribute-based organizations, assortments in which items are organized by goals would heighten the perceived similarities among items grouped together within a subcategory. The data confirms our prediction and shows that within-subcategory similarity was higher for goal-based (M = 4.00, SD = 1.56) compared to attribute-based assortments (M = 3.10, SD = 1.28; $t(135) = 3.663$, $p < .001$, $d = 0.63$).

In line with this, our measures of the substitutability of items within and between subcategories revealed a similar pattern. Items were seen as better substitutes within the categories of the goal-based assortment (M = 4.13, SD = 1.22) relative to the attribute-based assortment (M = 3.58, SD = 1.17; $t(135) = 2.680$, $p < .01$, d = 0.46). Between subcategories, however, respondents perceived greater dissimilarities among items in the goal-based assortment, as reflected in lower ratings of between-category substitutability (M = 4.27, SD = 1.27) compared to a situation in which the same assortment was organized by attributes (M = 4.90, SD = 1.17; $t(135) = 2.984$, $p < .01$, $d = 0.52$).

In line with the results reported by Poynor Lamberton and Diehl (2013), our data also shows significant differences in perceived overall similarities between goal-based (M = 3.37, SD = 1.32) and attribute-based assortments (M = 2.88, SD = 1.29; $t(135) = 2.203$, $p = .029$, $d = 0.38$), indicating that variety perceptions were lower in the goal-based compared to the attribute-based assortment. However, unlike these authors, we do not find any differences in respondents' construal levels between the conditions ($M_{\text{goal-based}}$ = 4.80, SD = .66; $M_{\text{attribute-based}}$ = 4.71, SD = .73; $t(135) = .802$, $p = .424$, $d = 0.12$).

4.3.3 DISCUSSION

The data furnished by this experiment lend support for the notion that, relative to an attribute-based organization of a product category assortment, organizing the assortment by goals increases the similarity of items grouped together in a subcategory. This result might be surprising since items comprised in attribute-based subcategories (e.g., 'green teas') are – by definition – highly similar to each other, at least on surface level. Items within a goal-based subcategory, in contrast, share less surface resemblances, as they are sourced across different attribute-based subcategories. Nevertheless, in line with previous research on goal-derived categories (Barsalou 1982; Ratneshwar et al. 2001), our results suggest that goal-based groupings (e.g., 'stress-relief tea'), which include items from diverse attribute-based subcategories (e.g., 'green teas' and 'black teas'), can 'push together' these items on a higher, relational level, and that these similarities can overcome surface level differences.

The data further show that goal-based assortments have the ability to 'pull apart' subcategories in terms of similarity, even when these subcategories contain items that are highly similar on surface level. In particular, we find that items from different goal-based subcategories (e.g., 'stress-relief tea' and 'energy-boost tea') have a lower substitutability compared to items from different attribute-based subcategories (e.g., 'green tea' and 'black tea'). This result makes sense since the goal-based category labels create a strong impression that these subcategories are conceptually distinct from each other in meaningful ways.

Overall, experiment 1 provides an initial demonstration that goal-based and attribute-based organizations have a different effect on similarity perceptions of items within and between subcategories. In experiment 2 we further examine the role of within- and between-subcategory similarities on overall similarity. If, relative to attribute-based assortments, goal-based assortments indeed increase similarity of items within subcategories while decreasing similarities between subcategories, we should be able to influence perceived overall variety perceptions by manipulating the structure of the assortment, and more specifically the number of subcategories and the number of items within each subcategory. Experiment 2 was designed to test this proposition.

4.4 EXPERIMENT 2

The goal of this experiment is to further test the proposition that the effect of assortment organizations on perceived overall variety is a function of the perceived similarities among items, both within and between subcategories. Unlike the first experiment, in which we simply measured perceived overall variety, experiment 2 aims to influence perceived overall variety by manipulating assortment structure through the number of subcategories and items within these subcategories.

Experiment 1 showed that in goal-based assortments, compared to attribute-based formats, perceived similarities between items are greater within, but smaller between subcategories. Therefore, we expect that perceived overall variety in goal-based assortments will be higher when the between-subcategory dissimilarities outweigh the within-subcategory similarities. In other words, when there are few subcategories and many items within those subcategories, perceived overall variety should be lower in goal-based compared to attribute-based assortments, and this effect should be mitigated when the number of subcategories increases.

4.4.1 METHOD

One hundred and ninety-nine respondents (45% female; age range 20-66, *M* = 33.44, SD = 10.59) sourced from a US online panel were assigned to the conditions of a 2 (assortment organization: attribute-based vs. goal-based) x 2 (number of subcategories: 2 vs. 5) between-subjects factorial design. Respondents were first confronted with the assortment of an online wine shop. Depending on the experimental condition, this assortment was organized either by attribute (country-of-origin) or by benefit (food pairing). For both types of organization, respondents received an assortment consisting of either two subcategories of five items (labeled 'France' and 'Chile' versus 'Red Meat' and 'Fish and Seafood'), or five subcategories of two items (labeled 'France', 'Chile', 'Spain', 'Italy', and 'South-Africa' versus 'Red Meat', 'Fish and Seafood', 'Cheese', 'Poultry', and 'Dessert'). The presentation order of subcategories were randomized across respondents. Each item was described by a picture, the name of the wine, and a description of its aroma, taste, grape and color (see appendix B for an overview of stimuli).

After reviewing the assortment, respondents were asked to evaluate the assortment on perceived overall similarities, within-category similarities, within-category substitutability and between-category substitutability. These outcome variables were measured as in the first experiment. We also added a specific measure for the between-category dissimilarity of items ('Wines from different subcategories are very different from one another'; 1 = 'Strongly disagree', 7 = 'Strongly agree'). Next, respondents indicated how likely they were to patronize the store ('Imagine you are planning to buy a bottle of wine, how likely is it that you will buy a wine from this shop?'; 1 = 'Very unlikely', 7 = 'Very likely'). We included this down-stream measure since previous research suggests that having an organized assortment with higher perceived variety makes it more likely that

consumers will choose to patronize that store (Hoch, Bradlow, and Wansink 1999). Finally, we also measured respondents' level of construal as in the first experiment.

4.4.2 RESULTS

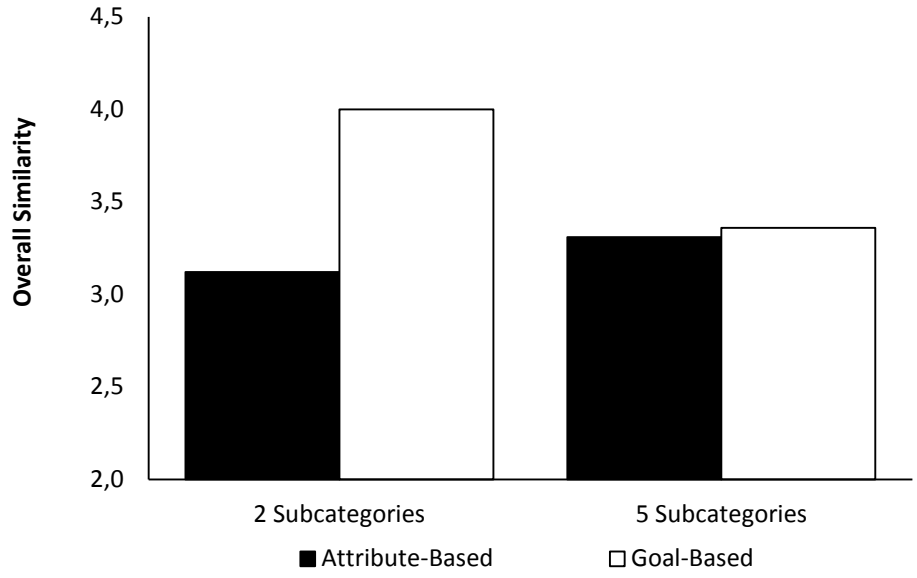
The data show that perceived overall similarity – the inverse of overall variety (Hoch, Bradlow, and Wansink 1999; Poynor Lamberton and Diehl 2013b) – varied across experimental conditions (figure 4.1). Specifically, we find a significant main effect of type of assortment organization (by attribute vs. by goal) on overall similarity (F (1, 195) = 5.711, $p < .05$, $\eta^2 = .03$). More importantly, this effect is qualified by a two-way interaction with number of categories (F (1, 195) = 4.630, $p < .05$, $\eta^2 = .02$). In particular, the data show that overall similarities were larger for goal-based assortments ($M = 4.00$, SD = 1.40) than for attribute-based assortments ($M = 3.12$, SD = 1.38; F (1, 195) = 10.151, $p < .01$, $\eta^2 = .05$), but only when there were few subcategories. When the number of subcategories increased, these differences in perceived overall similarities dissolved ($M_{\text{attribute-based}} = 3.31$, SD = 1.29; $M_{\text{goal-based}} = 3.36$, SD = 1.41; F (1, 195) = .029, $p = .865$, $\eta^2 = .00$), a finding consistent with the experimental predictions.

In addition to the perceptions of overall similarity, the experimental predictions can be further tested by disentangling overall similarity into within- and between-subcategory similarities. First we test whether both factors (within- and between-subcategory similarities) effectively affect overall variety. This appears to be the case: regression coefficients are positive and significant for both within- (β =.292, $p < .001$) and between-subcategory similarities (β = .396, $p < .001$; $R^2 = .255$). Next, we test whether the experimental factors affect the similarity measures. Results from an analysis of variance show that both experimental factors, assortment type (F (1, 195) = 204.577, $p < .001$, $\eta^2 = .51$) and number of subcategories (F (1, 195) = 15.128, $p < .001$, $\eta^2 = .07$) had a significant main effect on within-subcategory similarities. Custom contrasts reveal that within subcategories perceived similarities were larger for goal-based compared to attribute-based assortments, both when there were fewer subcategories ($M_{\text{attribute-based}} = 3.47$, SD = 1.62; $M_{\text{goal-based}} = 5.55$, SD = .78; F (1, 195) = 70.709, $p < .001$, $\eta^2 = .27$), as well as more subcategories ($M_{\text{attribute-based}} = 2.39$, SD = 1.13; $M_{\text{goal-based}} = 5.28$, SD = 1.20; F (1, 195) = 140.341, $p < .001$, $\eta^2 = .42$).

Also between subcategories, however, similarity perceptions differed across experimental conditions. ANOVA results reveal a significant main effect for assortment type (F (1, 195) = 18.055, $p < .001$, $\eta^2 = .09$), but not for number of subcategories (F (1, 195) = .043, $p = .837$, $\eta^2 = .00$) or the interaction term (F (1, 195) = .007, $p = .933$, $\eta^2 = .00$). In line with the experimental predictions, the data confirm that between-subcategory contrast was larger in goal-based relative to attribute-based assortments, both when there were two subcategories ($M_{\text{attribute-based}} = 4.88$, SD = 1.29; $M_{\text{goal-based}} = 5.55$, SD = 1.00; F (1, 195) = 8.537, $p < .01$, $\eta^2 = .04$) as well as five ($M_{\text{attribute-based}} = 4.90$, SD = 1.25; $M_{\text{goal-based}} = 5.60$, SD = .95; F (1, 195) = 9.541, $p < .01$, $\eta^2 = .05$).

FIGURE 4.1: OVERALL SIMILARITY RATINGS (EXPERIMENT 2)

Figure 4.1
THE IMPACT OF ASSORTMENT TYPE AND STRUCTURE ON OVERALL SIMILARITY (EXPERIMENT 2)



NOTE.–Compared to attribute-based assortments, goal-based assortments increase perceived similarities among the items comprised in the assortment, but only when there are only few subcategories containing relatively more items.

As an alternative measure of similarity, we also examined whether type of assortment organization influenced the perceived substitutability of items. The results of an analysis of variance showed a significant main effect of assortment type on between-category substitutability (F (1, 195) = 35.847, $p < .001$, $\eta^2 = .16$), but not of the number of categories (F (1, 195) = .244, $p = .622$, $\eta^2 = .00$), nor of their interaction (F (1, 195) = 1.763, $p = .186$, $\eta^2 = .01$). In particular, the data show that the substitutability of items between subcategories is lower in goal-based assortments compared to attribute-based ones, both in the fewer subcategories ($M_{\text{attribute-based}} = 4.41$, SD = 1.53; $M_{\text{goal-based}} = 3.43$, SD = 1.51; F (1, 195) = 10.686, $p < .01$, $\eta^2 = .05$) as well as five ($M_{\text{attribute-based}} = 4.59$, SD = 1.40; $M_{\text{goal-based}} = 3.04$, SD = 1.53; F (1, 195) = 27.185, $p < .001$, $\eta^2 = .12$).

The substitutability of items within subcategories showed the opposite pattern. Again, the type of assortment organization had a significant effect on within-category substitutability (F (1, 195) = 85.863, $p = .000$, $\eta^2 = .31$), whereas the number of subcategories (F (1, 195) = .591, $p = .443$, $\eta^2 = .00$) did not. Across experimental conditions, the data show that when the assortment is organized by goals, grouped items are perceived as better substitutes for one another ($M = 5.40$, SD = 1.02) then when the same assortment is organized by attributes ($M = 3.57$, SD = 1.69; F (1, 197) = 84.782, $p < .001$, $d = 1.31$).

Based on previous research by Hoch, Bradlow, and Wansink (1999), we expected that respondents were more likely to patronize the wine shop if they perceived the shop as offering greater variety. Results of an ANOVA reveal that both experimental factors, type of organization (F (1, 195) = 1.242, p = .267, η^2 = .01) and number of subcategories (F (1, 195) = .387, p = .534, η^2 = .00), had no significant effect on store patronage. More interestingly, however, their interaction term did have a significant effect, albeit marginally (F (1, 195) = 3.653, p = .057, η^2 = .02). In line with the results on perceived overall similarities reported above, custom contrasts reveal that respondents were more likely to buy an item from the attribute-based (M = 5.51, SD = 1.21) than from the goal-based assortment (M = 4.96, SD = 1.32; F (1, 195) = 4.505, p = .035, η^2 = .02), but only when there were few subcategories. When the number of subcategories increased, these differences dissipated ($M_{\text{attribute-based}}$ = 5.27, SD = 1.28; $M_{\text{goal-based}}$ = 5.42, SD = 1.34; F (1, 195) = .323, p = .571, η^2 = .00).

4.4.3 Discussion

Overall, Experiment 2 offers additional support for the notion that goal-based assortments increase similarities among items within subcategories, as well as dissimilarities among items belonging to different subcategories. These findings are in line with previous research on categorization which finds that items that are highly similar on surface level might be 'pulled apart' when they are categorized in terms of the goals they fulfill (Ratneshwar et al. 2001). We further find that – depending on the within and between subcategory similarities – goal-based organizations not necessarily decrease perceptions of the overall variety offered by an assortment. This finding is consistent with the theorizing that the perceived overall variety of an assortment is a function of its items' similarities within but also across subcategories.

The above arguments suggest that overall variety perceptions of a product category assortment depend on which of two factors outweighs the other: similarities within subcategories or dissimilarities between subcategories. Thus, since goal-based assortments tend to increase both these factors, it should be possible to heighten perceived overall variety of such an assortment by creating greater between subcategory dissimilarities, while keeping the within subcategory similarities constant between conditions. One approach to manipulating only between subcategory similarities is to restrict the number of items per subcategory to just one. Indeed, by having only a single item per subcategory, the impact of within subcategory similarities is left out of the equation. Therefore, overall variety will essentially depend on the perceived differences between subcategories.

Building on the above notion, the next experiment aims to reverse the negative effect of goal-based assortment organizations on perceptions of overall variety, as documented in experiments 1 and 2 of this article as well as in the studies of Poynor Lamberton and Diehl (2013). We predict that, by eliminating the effect of within-subcategory similarities, goal-based organizations will result in greater overall variety perceptions compared to attribute-based organizations. This proposition is tested in the following experiment.

4.5 EXPERIMENT 3

The primary goal of the third experiment is to further scrutinize the effect of assortment organization on perceived overall variety, by focusing on the role of between-subcategory dissimilarities. To this end, experiment 3 is designed such that there is no effect of within-subcategory similarities at play, but only of between-subcategory dissimilarities. Based on the notion that goal-based organizations increase contrast between subcategories relative to attribute-based organizations, we predict that – in the absence of within-category similarities – goal-based assortments result in higher perceived overall variety than attribute-based assortments.

This effect, however, should be limited to individuals who do not have a concrete goal or benefit activated in their mind. Since a match between an internally held goal and an external goal-based subcategory label could act as a filtering cue (Diehl, Kornish, and Lynch 2003), perceived overall variety might be reduced in goal-based assortments by limiting consumers' focus to only those items that fall under the relevant goal-based subcategory. Attribute-based subcategory labels, in contrast, are less likely to be used as a filtering mechanism when a concrete goal is active. Therefore, such attribute-based organization might still help consumers to appreciate the offered variety (Mogilner, Rudnick, and Iyengar 2008), even when they have a concrete goal mind.

4.5.1 METHOD

Two hundred and seventy-seven respondents (46% female; age range 19-72, *M* = 34.83, SD = 12.16) were recruited from a US online panel. We randomly assigned these respondents to the conditions of a 2 (assortment organization: attribute-based vs. goal-based) x 2 (goal active: no vs. yes) between-subjects design.

Respondents were told to imagine that a new restaurant was opening in their neighborhood. All respondents were also informed that they would be asked to evaluate the wine menu offered at this restaurant. Depending on the experimental condition, the wine menu was organized either by attributes (i.e., by country-of-origin) or by benefit (i.e., by food pairing). The assortment was organized into six subcategories, both in the attribute-based ('Argentina', 'Spain', 'Italy', 'France', Chile', 'South-Africa') as well as the goal-based assortment ('Red Meat', 'Fish and Seafood', 'Cheese', 'Poultry', 'Veggie', 'Dessert'), and the presentation order of these categories was randomized across respondents. Each subcategory consisted out of exactly one option, so that there would be no interfering effects of within-subcategory similarities and only between-subcategory dissimilarities would affect overall variety perceptions. The design of the stimuli was similar to those used in the second experiment.

We also varied between respondents whether a food pairing goal was activated or not. To this end, half of the respondents were told to imagine that they were having dinner at this restaurant and that they had just ordered its signature dish (the 'Seared Rib-Eye Steak with Burgundy Mushroom Sauce') for which they were

now about to select an appropriate wine. The other respondents were asked to simply browse the wine menu, without having a concrete goal activated in their minds.

Next, respondents were asked to rate their perceptions of the overall variety offered by the restaurant's wine menu ('This restaurant has an extensive wine menu') and how well items from different subcategories were substitutable with each other ('Between the different wine categories, wines are good substitutes for one another'), both on 7-point scales (1 = Strongly disagree, 7 = Strongly agree). Between-subcategory substitutability was used as an alternative measure for between-subcategory similarity.

4.5.2 RESULTS

Perceived overall variety was submitted to a 2 (assortment organization: attribute-based vs. goal-based) x 2 (goal active: no vs. yes) ANOVA. Results show that both of the experimental factors had a significant main effect. Overall, respondents rated the goal-based assortment (M = 4.97, SD = 1.42) as offering greater variety compared to the attribute-based assortment (M = 4.36, SD = 1.40; F(1, 273) = 14.138, p = .000, η^2 = .05). Also, having an active goal (M = 4.42, SD = 1.39) or not (M = 4.91, SD = 1.45) had a significant influence on perceived overall variety perceptions (F(1, 273) = 9.672, p = .002, η^2 = .03).

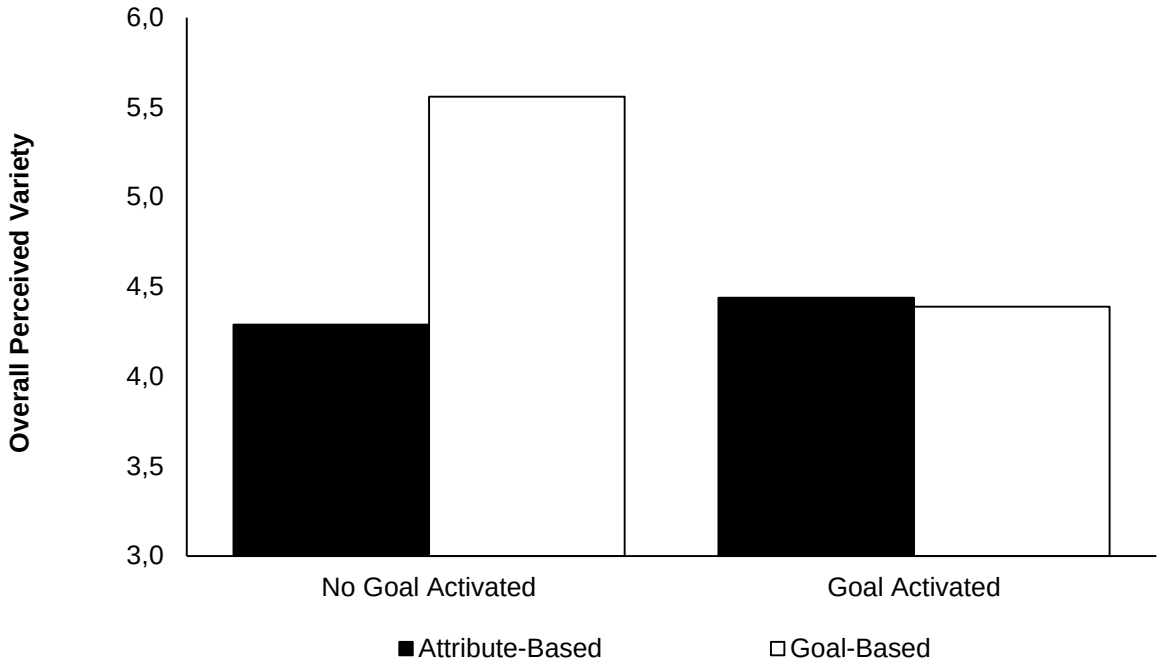
More important, the interaction effect between assortment organization and goal activation was significant (F(1,273) = 16.626, p = .000, η^2 = .06). Thus, respondents who did not have an active food pairing goal in mind perceived significantly more variety in the goal-based assortment (M = 5.56, SD = 1.00) compared to the attribute-based assortment (M = 4.29, SD = 1.55; F(1, 273) = 30.601, p = .000; η^2 = .10). In contrast, when respondents were informed about their food pairing goal, there was no difference in perceived overall variety in the goal-based (M = 4.39, SD = 1.54) versus in the attribute-based assortment (M = 4.44, SD = 1.24; F(1,273) = .051, p = .822; η^2 = .00) (figure 4.2). In other words, respondents who were confronted with a goal-based assortment perceived significantly less variety when they had an active goal in mind that matched with one of the goal-based labels (F(1, 273) = 25.553, p = .000; η^2 = .09). For respondents who judged variety offered by an attribute-based assortment, however, having a food pairing goal active or not had no impact (F(1, 273) = .473, p = .492; η^2 = .00).

A similar ANOVA was carried out for between-subcategory substitutability of items. In line with our theory, there was a main effect of type of assortment organization on the substitutability of items between subcategories (F (1, 274) = 16.437, p = .000; η^2 = .06). Thus, respondents who were presented with a goal-based assortment perceived items belonging to different subcategories to be less substitutable (M = 3.89, SD = 1.23) than those who were given the same assortment but organized by attributes (M = 4.46, SD = 1.13). Also the main effect of goal activation was significant (F(1, 274) = 6.557, p = .011, η^2 = .02), such that respondents perceived lower between-subcategory substitutability when a food pairing goal was active (M = 4.00, SD = 1.16) than when it was not (M = 4.36, SD = 1.25). This effect was driven by the different substitutability perceptions in goal-based assortments between respondents who did not have an active goal (M = 4.16, SD

= 1.32) and those who did (M = 3.63, SD = 1.08; F(1, 274) = 7.162, p = .008; d = .31). For respondents who were confronted with the attribute-based assortment, there was no difference between the group that had an active goal (M = 4.37, SD = 1.12) and those who had not (M = 4.56, SD = 1.15; F(1, 274) = .882, p = .349; d = .11).

FIGURE 4.2 : ASSORTMENT TYPE, GOAL ACTIVATION AND OVERALL VARIETY

Figure 4.2
THE IMPACT OF ASSORTMENT TYPE AND GOAL ACTIVATION ON OVERALL VARIETY (EXPERIMENT 3)



NOTE.–Compared to attribute-based assortments, goal-based assortments increase perceptions of the variety offered by the assortment, but only when there is no goal activated that directly matches one of the benefit-based subcategory labels in the assortment.

4.5.3 DISCUSSION

Overall, the results of experiment 3 offer converging support for our theorizing by showing that organizing an assortment by benefits might actually increase rather than decrease perceived overall variety relative to an attribute-based assortment. In particular, we argued that consumers who are confronted with a goal-based assortment would perceive greater similarities among items within subcategories, but also greater dissimilarities between subcategories. By excluding the effects of within-subcategory similarities, this experiment shows that goal-based assortments indeed create stronger contrasts between subcategories than

attribute-based assortments. This contrast eventually results in greater overall variety perceptions in benefit- versus attribute-based assortments.

We further find that this effect only holds when consumers do not have an active goal in mind that maps onto the goal-based labels. When there was a match between the active goal (i.e., ordering a wine to pair with the steak dish) and one of the goal-based subcategory labels (i.e., 'Red Meat'), perceived overall variety was lower. This makes sense since the goal-based label reduces the relevant assortment to only those items that are suited given the active goal. The fact that wines from different goal-based subcategories were seen as worse substitutes when the food pairing goal was active than when it was not, further supports this proposition. When the subcategories were based on attributes (country-of-origin), there was no direct match between the activated food pairing goal and the subcategory labels. Therefore, there was no difference in substitutability of wines belonging to different attribute-based subcategories between respondents for whom a food pairing goal was active or not active, and, hence, no difference in perceived overall variety.

4.6 General Discussion

How to organize the assortment is an important question retailers face. Most assortment organization strategies involve organizing items either based on their taxonomy and shared features (i.e., attribute-based), or based on the underlying consumer goal they fulfill (i.e., goal-based). Starting from the work of Poynor Lamberton and Diehl (2013), the research presented in this article demonstrates that a retailer's decision to follow the first or the latter assortment organization strategy may have important implications for consumers' perception of the variety offered by that retailer.

In particular, the three experiments outlined in this research offer converging support for the notion that attribute-based and goal-based assortments influence perceived overall variety by differently affecting within- and between-subcategory similarity perceptions. Across all experiments, we find that items grouped in goal-based compared to attribute-based subcategories are perceived as more similar to the other items belonging to that same subcategory, yet less similar to items belonging to other subcategories. In other words, goal-based assortments are associated with lower within-subcategory variety, but greater between-subcategory variety. This finding is in line with previous work on goal-derived categorization (Ratneshwar et al. 2001) which states that goals can "pull apart" or perceptually discriminate otherwise very similar items.

Following this notion, we showed that the negative relation between goal-based organizations and perceived overall variety, as reported in Poynor Lamberton and Diehl (2013) and in Experiment 1 of the current article, could be mitigated by creating more subcategories within the assortment, such that the impact of between-subcategory dissimilarities on perceived overall variety was larger (Experiment 2). When we designed the assortment such that there would be no effect of within-subcategory similarities (i.e., when each subcategory consisted out of just one item), the greater between-subcategory dissimilarities in goal-based assortments even reversed that negative relation, leading to higher perceived overall variety compared to attribute-based assortments (Experiment 3). This reversal, however, was limited to situations in which consumers did not have an active goal in mind that matched one of the goal-based labels.

From a theoretical standpoint, our research contributes to the literature on consumers' perceptions of assortment variety. Previous research has mainly considered *overall* variety perceptions as an important outcome of different assortment strategies, since it has important downstream consequences for consumer behaviors such as store choice, purchase likelihood, purchase quantity, item selection, and strength of preferences (see Chernev 2012 for a review). Nevertheless, in our research we offer a more detailed examination of the perceived overall variety construct. In particular, we draw from the psychological literature on the similarity construct (Medin, Goldstone, and Gentner 1993; Tversky 1977; Tversky and Gati 1978) to break down perceived overall variety of an assortment into its constitutive parts: within- and between-subcategory similarities (Medin, Goldstone, and Gentner 1993; Tajfel and Wilkes 1963). Across the three experiments reported in this article, results underscore the cardinal significance of considering both types of similarities as a driver of consumers' overall variety perceptions.

We also add to the literature on assortment organization by explicitly discriminating between two conceptually very distinct organization types: attribute- versus goal-based organizations. Whereas previous research showed great interest in how assortment organization affect assortment perceptions and choice (e.g., Dreze, Hoch, and Purk 1994; Hoch, Bradlow, and Wansink 1999; Kahn and Wansink 2004; Mogilner, Rudnick, and Iyengar 2008), most of this work examined either disorganized versus organized assortments, or different types of attribute-based assortments. Furthermore, Mogilner, Rudnick, and Iyengar (2008) argue that it is merely the presence of subcategories that drive variety perceptions and that there is no effect of different types of organizations. In this research, however, we demonstrate that type of organization (attribute- versus goal-based) might affect variety perceptions, even when the number of subcategories is held constant.

Barring the work of Poynor Lamberton and Diehl (2013), there is virtually no research addressing goal-based assortments. This gap in literature is troublesome, given that more and more retailers are adopting goal-based approaches to organizing their assortments. The current paper addresses this gap by examining the impact of such assortment organization strategies on consumers' variety perceptions. We further build on and contribute to the initial work of Poynor Lamberton and Diehl (2013) which suggests that goal-based assortments may push consumers' cognitive mind-set into a higher, abstract level. As a consequence of this more abstract mindset, they argue, consumers perceive more similarities among items within the assortment as a whole, leading to lower variety perceptions compared to an attribute-based format. Our results, however, offer a second route through which assortment organization might impact similarity perceptions among items. In particular, we argue that the effect of attribute- and goal-based assortment organizations on overall similarity perceptions are a function of both within- and between-subcategory similarities. Across all three experiments, we found that, relative to attribute-based formats, goal-based assortments increased similarities among items within subcategories, but decreased similarities between subcategories. Therefore, our results suggest that there may be situations in which perceived variety is higher for goal-based as opposed to attribute-based assortments, depending on the number of subcategories and number of items within these subcategories.

Note that we did not find that different assortment organizations affected consumers' construal level (Experiment 1). This, however, does not necessarily contradict the findings of Poynor Lamberton and Diehl (2013). These authors used a chain-of-experiments approach to examine the role of construal level as a process variable in the relationship between type of organization and variety perceptions, by measuring it as an outcome of assortment type in one experiment and manipulating it as an independent factor influencing variety perceptions in another one. Given that previous research suggests that being able to identify construal level as a mediator in a single experiment is very difficult, our method of using a single experiment could explain why we did not find any effects of assortment type on consumers' construal levels. In either way, our theorizing based on the categorization literature offers an additional account of how assortment organization might affect variety perceptions. Future research might further examine when construal level and the mindsets associated with that (concrete versus abstract) affect this process: does it matter whether goal can be satisfied by a single attribute or a limited number of attributes; whether the goals defined in the

subcategory labels are more abstract (e.g., “fun”, “prestige”) versus more concrete (e.g., “save money”, “eco-friendly”)?

Also note that the results of this research are not only relevant for category managers in charge of managing retail assortments, but also for brand managers who offer different items within a product category. In particular, results from Experiment 3 suggest that labeling the items of a single brand by goals rather than by attributes might increase consumers’ perceptions of the variety offered by that brand. This is important, since being perceived as offering more variety in a product category might increase consumers’ quality perceptions of that brand (Berger, Draganska, and Simonson 2007). Furthermore, previous research shows that such goal-based labels might also facilitate consumer decision making, especially for consumers who are rather inexperienced in the product category (Goedertier et al. 2012).

The results reported in this article, however, might be limited to goal-based subcategories that are sufficiently distinct from each other. Like people and most other entities, products can be categorized in many different ways (Rosch 1978). Attribute-based subcategories are based on the taxonomy of items. While a single product cannot belong to more than one attribute-based subcategory (e.g., a donut is a donut and not a cereal bar), it might be part of multiple goal-based subcategories (e.g., a donut might be part of such subcategories as “snacks to eat in the car”, “indulgent snacks”, and “things to eat for breakfast”). In other words, when items within a goal-based subcategory might also fit into one of the other goal-based subcategories, the between-subcategory contrast we found in these assortment formats might be reduced drastically.

As a result, we expect that the effects reported in this article pertain to goal-based subcategories that are mutually exclusive. To illustrate, when a particular wine is categorized as being a good wine ‘to pair with a red meat dish’, consumers might readily conclude that this wine will not pair well with other dishes like fish or dessert. Consider, on the other hand, a goal-based assortment in which the subcategories are less well-defined. A wine category, for example, could be divided into goal-based groups such as “wine to discover new tastes”, “wine suited as a gift”, and “budget wines”. In this assortment, it is less obvious to infer that items from different subcategories are conceptually very different from each other, since a specific wine might fit under different subcategory labels. Investigating to what extent category boundaries influence how assortment organization affects perceived similarities within the assortment is a fruitful venue for future research.

Finally, future research might examine conditions under which goal-based assortments lead to different variety perceptions relative to attribute-based assortments. In particular, it is important to test how consumer-specific variables such as expertise, involvement or cultural background might affect the similarities consumers perceive within and between subcategories. To illustrate, for US respondents wine subcategories such as France, Italy and Spain might be perceived as more similar – or closer in terms of psychological distance – compared to European respondents. Another aspect that might affect perceived variety within and between subcategories is the level of complexity at which the grouping occurs. More specifically, attribute-based

groupings are based on single, concrete product attributes whereas goal-based groupings occur at a higher, more complex level that often take into account multiple attributes. Nevertheless, goal-based groups might also be based on a single attribute (e.g., based on the attribute packaging size an assortment might be organized in goal-based groupings such as “on the go” versus “family friendly”). Examining whether the level of complexity (single versus multi-attribute) on which the subcategories are based further affects variety perceptions is an important question future research might address.

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4.8 APPENDIX

APPENDIX A: EXAMPLE STIMULI STUDY 1

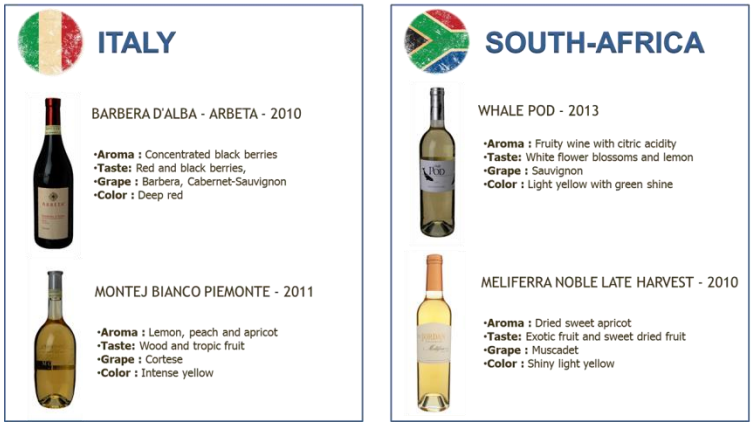
ATTRIBUTE-BASED ASSORTMENT

GOAL-BASED ASSORTMENT

STRESS-RELIEF TEA	WEIGHT-LOSS TEA	CARDIO-HEALTH TEA	ENERGY-BOOST TEA
Sencha Sweet  Fresh Japanese tea that combines tastes of dried fruit, flowers, and vanilla. Freshness: Intensity:	**Huangshan Maofeng**  One of China's most famous blends that is often used as a gift. Freshness: Intensity:	**Huangshan Yun Wu**  Translates as "cloud and fog" tea. Its dried leaves are fine and curly. Freshness: Intensity:	**Jasmine Dragon Pearls**  Green tea that is rolled up to silvery balls and then covered with Jasmine flowers. Freshness: Intensity:
Ceylon BOP1 Field  Tea from Sri Lanka, combining black leaves with garden herbs. Freshness: Intensity:	**Green Magnolia**  Green tea that gets covered with Magnolia blossoms for a flowery taste. Freshness: Intensity:	**Gunpowder**  Green tea of which the leaves are lightly smoked. Freshness: Intensity:	**Smoked Lapsang Souchong**  Black tea leaves that are smoked with smoldering wood of the pine tree. Freshness: Intensity:
Tropical Rooibos Delight  A purely natural mix of Rooibos tea with exotic fruits like mango and pineapple. Freshness: Intensity:	**Keemun Black Tea**  The dried leaves are curly with golden tips which gives this black tea its typical taste. Freshness: Intensity:	**Tropical Rooibos Delight**  A purely natural mix of Rooibos tea with exotic fruits like mango and pineapple. Freshness: Intensity:	**Peppermint Tuareg**  Peppermint tea with lemon, inspired by Sahara flavors. Very intense and fresh. Freshness: Intensity:
Red Berry Harvest  An intense mix of black berries and cherry, with notes of prune and orange. Freshness: Intensity:	**Ceylon Black Orange**  Subtle but magnificent marriage between black Ceylon leaves and orange blossom. Freshness: Intensity:	**Earl Grey**  Black tea from India with natural bergamot for that typical Earl Grey taste. Freshness: Intensity:	**Darjeeling 5 O'Clock**  Black tea from Darjeeling – India, at the foothills of the Himalaya. Light and golden. Freshness: Intensity:
Bai Mudan Rosetea  Light white tea leaves with rosebuds and a generous mix of intense herbs. Freshness: Intensity:	**Sweet Harmony**  A sweet mixture of fruits with a lemony touch. Contains apple, raisins and myrtle. Freshness: Intensity:	**Silver Needle Yin Zhen**  White tea leaves with mint, lemon grass, and red clover. Freshness: Intensity:	**Rooibos Orange**  Very refreshing Rooibos tea with infusions of orange blossom, fruit, and peel. Freshness: Intensity:
Venetian Enchantment  A balanced mix of sweet apple and licorice with cherry blossoms and lemon grass. Freshness: Intensity:	**Jogi Sichuan**  A mix of bitter and sweet tastes such as Chinese kuding, ginger, clove, and licorice. Freshness: Intensity:	**Caraway Infuse**  A tea infused with seeds of caraway enriched with garden herbs. Freshness: Intensity:	**Grandma's Orchard**  A delicious, natural mélange of apple, hibiscus, rosehip, and black berries. Freshness: Intensity:

APPENDIX B: EXAMPLE STIMULI STUDY 2

ATTRIBUTE-BASED ASSORTMENTS



GOAL-BASED ASSORTMENTS

RED MEAT

FAUSTINO V RESERVA - 2006

- **Aroma :** Oak and stone fruit
- **Taste:** Blackberries, cherries and ripe prune
- **Grape :** Garnacha, Mazuelo, Tempranillo
- **Color :** Cherry red with purple shine

DUENO DE LA LUNA - 2009

- **Aroma :** Red fruit and leathery oak.
- **Taste:** Berries, licorice and cherries
- **Grape :** Merlot, Shiraz, Tempranillo
- **Color :** Violet

FISH & SEAFOOD

SINDO - 2012

- **Aroma :** Flowery nose with lemon and apple
- **Taste:** Lemony with white fruit and apple
- **Grape :** Verdejo, Viura
- **Color :** Clear yellow with grey shine

WHALE POD - 2013

- **Aroma :** Fruity wine with citric acidity
- **Taste:** White flower blossoms and lemon
- **Grape :** Sauvignon
- **Color :** Light yellow with green shine

POULTRY

MONTEJ BIANCO PIEMONTE - 2011

- **Aroma :** Lemon, peach and apricot
- **Taste:** Wood and tropic fruit
- **Grape :** Cortese
- **Color :** Intense yellow

MAISON TORRES SANTA DIGNA - 2012

- **Aroma :** White fruit with a touch of vanilla
- **Taste:** Dried fruit, exotic fruit, mango, apricot
- **Grape :** Chardonnay
- **Color :** Clear yellow

CHEESE

BARBERA D'ALBA - ARBETA - 2010

- **Aroma :** Concentrated black berries
- **Taste:** Red and black berries
- **Grape :** Barbera, Cabernet-Sauvignon
- **Color :** Deep red

CHATEAU COULINET - 2011

- **Aroma :** Berries and stone fruit
- **Taste:** Red berries, blackberries, stone fruit
- **Grape :** Cabernet-Sauvignon, Merlot
- **Color :** Deep ruby red

DESSERT

DOMAINE DU VIEUX PIGEONNIER - 2001

- **Aroma :** Rich nose with honey
- **Taste:** Honey and sweet flowers
- **Grape :** Muscat
- **Color :** Shiny straw-yellow

MELIFERRA NOBLE LATE HARVEST - 2010

- **Aroma :** Dried sweet apricot
- **Taste:** Exotic fruit and sweet dried fruit
- **Grape :** Muscadet
- **Color :** Shiny light yellow

RED MEAT

CHÂTEAU BEAU RIVAGE - 2009

- **Aroma :** Fruity nose, violet and red fruit
- **Taste:** Red berries, blackberries, cassis
- **Grape :** Cabernet-Sauvignon, Merlot
- **Color :** Dark red

CASILLERO DEL DIABLO - 2011

- **Aroma :** Rich nose with dark fruit and prune
- **Taste:** Spices and red fruit with chocolate
- **Grape :** Merlot
- **Color :** Intense purple-red

SAINT JOSEPH COURONNE - 2010

- **Aroma :** Fruity nose with tones of dark fruit
- **Taste:** Red berries and blackberries
- **Grape :** Syrah
- **Color :** Red with purple and black

MAYCAS DEL LIMARI - RESERVA - 2009

- **Aroma :** Intense fruit, cherries and wood
- **Taste:** Cherry, dark ripe prunes, herbs and oak
- **Grape :** Syrah
- **Color :** Deep red

DON RECA - 2010

- **Aroma :** Stone fruit and light spices
- **Taste:** Wild cherries, vanilla and cacao
- **Grape :** Cabernet-Sauvignon
- **Color :** Cherry red

PALO ALTO RESERVA - 2012

- **Aroma :** Nose of citrus, white fruit and flowers
- **Taste:** White fruit, lemon and white blossom
- **Grape :** Chardonnay
- **Color :** Clear yellow with a green touch

CHÂTEAU COLLINES FLEURIES - 2012

- **Aroma :** Fruity with apple and pears
- **Taste:** White fruit, apples and pears
- **Grape :** Sauvignon Blanc
- **Color :** Crystal clear, yellow tone

LAS PUERTAS - 2011

- **Aroma :** Nose of white fruit and apples
- **Taste:** Crisp apples, lemon and berry blossom
- **Grape :** Sauvignon Blanc
- **Color :** Yellow with grey tones

CORSICAN ISULA - 2012

- **Aroma :** Notes of white blossoms
- **Taste:** White blossoms of fruit trees
- **Grape :** Chardonnay
- **Color :** Light straw-yellow

LA BOTTIERE RES BLANC - 2010

- **Aroma :** Apple and notes of oak
- **Taste:** White fruit, apple, oak
- **Grape :** Chablis
- **Color :** Deep straw-yellow with a grey lining

5

INFERENCE MAKING IN GOAL-BASED ASSORTMENTS: THE ROLE OF SIMILARITY TO THE IDEAL

5.1 INTRODUCTION

With an in-store decision rate as high as 76%, more buying decisions are formed at the point-of-purchase than ever before (POPAI 2012). Given the abundance of product alternatives and the relatively short time spent in-store, many of these decisions involve inferring unknown product attributes from the limited information that is available in-store (Chandon et al. 2009). A particularly salient piece of information that is readily available for consumers during their shopping trip is the category label under which products are displayed. Given that retailers are largely in control of these category labels, it is important to understand how they might affect the inferences consumers generate.

Which category label retailers employ essentially depends on how the items within an assortment are organized. Traditionally, retailers have used taxonomic categories that group together items based on their shared physical features (Poynor and Wood 2010). These categories represent the basic product categories consumers use such as cereal, rice, or jam (Bettman and Sujan 1987; Felcher, Malaviya, and McGill 2001). Nevertheless, consumers do not buy a product for its attributes per se, but rather for its ability to fulfill an active goal (Van Osselaer and Janiszewski 2012; Van Osselaer et al. 2005). That is, they do not buy a can of soda for its physical attributes, but for the benefits these attributes bring in light of their goal; quenching their thirst.

To better match such consumer decision process, many retailers are now opting for a goal-based assortment organization (Poynor Lamberton and Diehl 2013b), which calls for grouping together items based on the benefits they provide for fulfilling specific consumer goals (Chernev 2012). To illustrate, the online fashion retailer Zappos.com allows customers to view its assortment organized by the goal the clothes should serve (i.e., for which occasion). In this way, items from different taxonomic categories (e.g., shoes, skirts, tops, …) are brought together in goal-based subcategories, with labels such as 'Holiday Shopping', 'Girls' Night', and 'Winter Vacation'.

The current research focuses on the impact of such goal-based category labels on the inferences consumers make to fill the gaps in their product knowledge. Past research points to taxonomic product category membership as a strong cue for inferring the presence of typical attributes related to that category (Kardes, Posavac, and Cronley 2004). This makes sense since taxonomic categories are based on naturally occurring attribute correlations among items (Rosch and Mervis 1975). As a result, such categories are formed by maximizing the within-category similarities as well as the between-category dissimilarities among products on attribute and feature level (Rosch 1978). The category label in itself therefore serves as a good predictor of the attributes that each item is expected to have (Fiske et al. 1987). Furthermore, the category label might also inform customers about the basic functionality of the item – i.e., what it does in general – but not about its appropriateness in different usage contexts or for different goals (Gregan-Paxton, Hoeffler, and Zhao 2005; Moreau, Markman, and Lehmann 2001; Noseworthy and Goode 2011).

Goal-derived categories, however, seem to be less contingent on correlations among attributes or surface-level similarities (Barsalou 1985; Ratneshwar et al. 2001). Since different products with very different attributes and features might all serve a similar goal and one product might also serve multiple goals (Kruglanski et al. 2013), items within goal-derived categories often share few – if any – physical similarities (Ratneshwar, Pechmann, and Shocker 1996). Moreover, one item might belong to different goal-derived categories at the same time (Ratneshwar et al. 2001). For these reasons, goal-based category labels might not necessarily be a useful cue for consumers to confidently infer unknown physical attributes products. Nevertheless, they might inform consumers about the specific benefits offered by the items in the goal-based category.

Imagine, for example, that a consumer who holds an active goal of dieting enters a local supermarket to buy a snack. Upon arrival she notices that the retailer decided to arrange all snacking products not by product type (e.g., cereal bars, potato chips, fruit bowls, …), but by consumption goal (e.g., 'healthy, 'indulgent, 'convenient', …). Will her perceptions of a specific snacking item (e.g., a cereal bar) be affected by the goal-based category label under which it is placed (e.g., 'healthy' vs. 'indulgent')? If so, would this always be the case? Could, for example, the fact that the item is placed in more than one goal-based category hinder this effect? And would the availability of concrete product information that is inconsistent with the goal-based category label alter product perceptions? Throughout a series of three experimental studies, the current research offers an exploration into these questions.

5.2 CONCEPTUAL BACKGROUND

When consumers form judgments about products, they seldom have access to all relevant information regarding those products. Whether displayed in a store, online, in a catalog or in an advertisement, products are rarely described in full detail. Yet, to be able to make a judgment about those products, consumers often go beyond the information given by inferring their unknown properties (Harris 1981; Kardes, Posavac, and Cronley 2004). In essence, such inferential mechanisms entail generating 'if-then'- linkages, such that the available information leads to a (subjectively) logical conclusion about the information that is missing (Kardes et al. 2008). These linkages are based on implicit theories, beliefs and intuitions about the correlations and relationships among products and their features (Broniarczyk and Alba 1994; Wyer 2004).

Well-established, common consumer inferences based on such if-then linkages include drawing conclusions about a product's quality based on its price (e.g., Bettman, John, and Scott 1986; Huber and McCann 1982; Kardes et al. 2004), inferring reliability from years of warranty (e.g., Broniarczyk and Alba 1994; Dick, Chakravarti, and Biehal 1990), taste from a food's perceived healthiness (Raghunathan, Naylor, and Hoyer 2006), or even inferring product performance from observable but irrelevant, trivial attributes (e.g., Carpenter, Glazer, and Nakamoto 1994). Note that all of these inferences are correlation-based, meaning that consumers draw inferences about the presence and/or level of a missing attribute from the presence and/or level of another, observable attribute.

Consumers, however, not only have implicit theories about attribute-to-attribute correlations; they might also draw from their knowledge and theories about the category to which a product belongs to generate inferences about unobservable attributes (Kardes et al. 2008; Loken, Barsalou, and Joiner 2008). As with attribute-to-attribute inferences, category-based inferences involve if-then reasoning: if this object belongs to category X, it must possess the attributes typical for that category (Kardes et al. 2008).

5.2.1 CATEGORY LABELS AND CATEGORY-BASED INFERENCE

In essence, categories are a means to structure and simplify the world by grouping items that are to some extent equivalent (Medin, Ross, and Markman 2004). When people encounter objects, they try to make sense of them by comparing them to their current category representations or 'schemas' (Gentner and Markman 1997; Gregan-Paxton and John 1997; Sujan 1985), which are integrated knowledge networks of accumulated experiences with category members (Smith and Medin 1981). Such category representations can be conceptualized as a hierarchy consisting of the category label at the top which is linked to the attributes that are typical for category members at a lower level (Fiske et al. 1987). As with nodes in an associative memory network (Anderson 1983), activating a category label allows consumers to draw inferences about the typical attributes that an item belonging to that category is expected to have (Loken, Barsalou, and Joiner 2008).

Consumer research exploring category-based inferences has demonstrated that 'taxonomic' or 'natural' product categories are markedly effective in such inferential processes (Loken, Barsalou, and Joiner 2008).

These product categories – such as cereal, bread, milk – are based on the naturally occurring correlation between items and their attributes or features (Barsalou 1985; Rosch and Mervis 1975). As a result, product categories are constructed such that they maximize the within-category similarities, as well as the between-category differences (Rosch 1978). This implies that an item will be classified in a certain product category based on its similarity – being the number of shared features and attributes – with other products of that category (Loken and Ward 1990).

Since feature similarity is the organization principle underlying these categories, they are characterized by a graded structure, meaning that some members are better examples – i.e., they are 'more typical' – than others for the given category (Barsalou 1985; Rosch 1978; Rosch and Mervis 1975). At the heart of a product category lies the most typical exemplar, being the product that possesses those features that are most characteristic of the category (Loken and Ward 1990; Rosch and Mervis 1975). As a result, a product category label will be strongly associated with these typical features, hence the most likely features that each category member should possess (Loken, Barsalou, and Joiner 2008).

As a result, explicitly marking a product with a specific product category label provides consumers with a reliable cue for inference making (Osherson et al. 1990; Yamauchi and Markman 2000). Just like stereotypes are networks of typical characteristics and personality traits of social groups that affect how members of those groups are perceived (Dunning and Sherman 1997), so are product categories knowledge networks that allow consumers to logically infer that a product belonging to a category should have the features that are typical for that category (Kardes, Posavac, and Cronley 2004; Yamauchi 2005). An externally provided category label tells consumers from the outset that a product is a member of that category and, consequently, which features it is likely to have.

The literature on ambiguous products illustrates the importance of product category labels in prompting consumer inferences (Gregan-Paxton, Hoeffler, and Zhao 2005; Moreau, Markman, and Lehmann 2001). Such ambiguous or 'hybrid' products possess features and functionalities that span multiple categories, and may therefore be categorized in more than one category. A common observation in this stream of research is that consumers tend to categorize such a product in a single category – one for which they already have category knowledge – and only draw inferences based on this single category (Gregan-Paxton, Hoeffler, and Zhao 2005). To illustrate, Moreau, Markman, and Lehmann (2001) show in one of their studies how consumers who categorize a digital camera as a 'scanner' expected that it would perform worse in terms of picture quality than those who classified the same item as a 'camera'. This suggests that category labels play a very important role: consumers draw inferences based on category membership and ignore the product's attributes that are not typical for that category (Rajagopal and Burnkrant 2009).

It is important to note here that product category labels are good predictors of product attributes but not necessarily of other product dimensions such as quality and other benefits, or goals and usage situations. To illustrate, learning that an item is a camera allows consumers to predict that it has typical attributes of a camera (e.g., it has a lens) but not what the quality of that particular camera is (e.g., what the resolution of the

lens is). Furthermore, within the category of cameras, different cameras are geared toward different goals and needs. One camera, for example, might be more suited for professional portrait shooting (e.g., they offer more clarity) whereas others are more appropriate for outdoor wildlife shooting (e.g., they offer better zoom quality). The only thing the category label 'camera' might tell you that it *has* a lens and (perhaps) a zoom, but not *how much of it* the camera has. Similarly, the product category label 'camera' informs consumers about its basic functionality (e.g., 'it can take pictures'), but not on context-specific benefits needed to fulfill certain goals (e.g., 'how well does the camera perform in bad light conditions?'). The next chapter discusses how organizing products by goals rather than by product category, might help consumers to infer such benefits.

5.2.2 GOAL-DERIVED CATEGORIES AND INFERENCE MAKING

The literature on category-based inferences points to the crucial role of the similarity construct underlying product categories, such that members of a category all share a set of attributes that are characteristic for that category (Loken, Barsalou, and Joiner 2008; Rosch and Mervis 1975) and category labels are useful cues for inferring these (Kardes, Posavac, and Cronley 2004). Yet, goal-derived categories – i.e., categories that group together products based on their ability to fulfill a consumption goal (Felcher, Malaviya, and McGill 2001) – appear to be less dependent on such attribute correlations. Goal-derived categories, such as 'convenient snacks', do not seem to be based on feature-level similarities as they may include diverse items such as an apple, donut, or a granola bar (Felcher, Malaviya, and McGill 2001; Ratneshwar et al. 2001; Ratneshwar, Pechmann, and Shocker 1996). Furthermore, items that are highly similar at first sight might belong to very different goal-derived categories, as they might serve different consumption goals. Ratneshwar et al. (2001) give the example of how a consumer who holds a salient health-orientation goal might not consider whole-grain bread and ordinary bread to be part of the same 'healthy food' category, despite their obvious feature similarities. Considering these structural differences between nominal product categories and goal-derived categories, one might expect it to be far less likely for a goal-based category label to act as a reliable cue for inference making compared to a product category label, at least what physical product attributes are concerned.

Nonetheless, past research has found that goal-derived categories, just like nominal product categories, are characterized by a graded structure (Barsalou 1985). In other words, some items are better examples or more typical for a goal-derived category compared to others. Whereas typicality in product categories is based on the extent to which a product has the features that are characteristic for the category and, thus, is more similar to other category members (Rosch and Mervis 1975), in goal-derived categories typicality refers to a product's 'idealness' for fulfilling a specific goal (Barsalou 1985). Put differently, in goal-derived categories a product will be considered more typical depending on how close it is to the ideal product for goal achievement, being the extent to which it possesses the ideal qualities related to that goal (Barsalou 1985; Ratneshwar et al. 2001). For example, in the case of a 'diet food' category, an ideal quality to achieve the diet goal would be 'having zero calories'. For these goal-relevant, ideal product qualities, a product will be seen as more typical if it possesses more of it. In sum, whereas typicality in product categories is driven by the presence and number of common, shared features that are characteristic for the category, goal-derived categories favor extreme values on a limited set of goal-relevant dimensions, irrespective of which particular attributes provide these benefits (Voorspoels, Storms, and Vanpaemel 2013).

Let us illustrate this difference in typicality between taxonomic categories and goal-derived categories with the camera example we previously used. For the taxonomic product category of 'cameras', the most typical item would be the one that has the highest family resemblance, being the most shared features with other category members. This means that a standard digital camera with a (interchangeable) lens and lens cover, a flash and a shutter release might be perceived as more typical than an iPhone for the camera category. However, when constructing the goal-based category of cameras to use on parties or for taking on-

the-road 'selfies', typicality is based on goal-related benefits such as portability, photo-sharing abilities and how easy it is to quickly shoot a picture with one hand while facing the lens. In this specific usage context, the iPhone might be seen as the more typical camera.

Considering the differences between nominal product categories and goal-derived categories, we expect that category labels might affect the type of inferences consumers make differently manner for both categories. Whereas product category labels have been demonstrated to drive inferences about the presence of typical, common, and characteristic attributes for the category (Gregan-Paxton, Hoeffler, and Zhao 2005; Kardes, Posavac, and Cronley 2004; Moreau, Markman, and Lehmann 2001), we expect that a goal-based category label will push a product closer to the 'ideal'. In contrast to inferences from product category labels, inferences from goal-based labels will not be made on the presence or absence of attributes per se, but on the extent to which an item possesses the ideal qualities that are needed to achieve the goal. As a result, a granola bar that is placed in a 'healthy snacking' category might be perceived as possessing less calories (presuming that the ideal for healthy food is zero calories) compared to when that same bar would be placed in a category labeled 'indulgent snacking'. Furthermore, given that goal-derived categories are not formed based on common attributes (as is the case for nominal product categories) but on the extent to which an item has goal-relevant qualities, we expect that inferences will be limited to those qualities alone.

5.2.3 Conflicting Information

Since we posit that goal-based category labels might drive product perceptions towards the ideal, it is important to also understand whether this process always occurs or not. In this context, the current research examines whether multifinality of a means (i.e., placing an item under more than one goal-based label) reduces consumers' inferences towards the ideal of those goals. We expect this to occur, but only when the item is linked to seemingly conflicting goals or, in other words, when membership of a certain goal-based category seems to impede membership of the other goal-based category. For example, a snacking product that is part of a 'healthy' snacking category (having 'zero calories' as an ideal quality) might be perceived as less healthy when it is also part of an 'indulging' category (linked to the ideal qualities of rich and full taste). In contrast, when this item is part of the 'healthy' snacks category as well as a 'convenient' snacks category, the ideal qualities linked to both goals do not seem to be in conflict with each other, and consumers might still infer that the item is more healthy.

Secondly, we also examine how available attribute information might help or hinder goal-based inferences. Past research suggests there two ways in which people form impressions: category-based versus attribute-based (Fiske et al. 1987; Fiske and Pavelchak 1986). Which of the two processes people use, essentially depends on the information that is available during judgment. When a clear category label is available that denotes that an item belongs to a certain category, categorical processing is more likely (Fiske and Pavelchak 1986; Kardes, Posavac, and Cronley 2004). This means that the category label associated with a product will activate consumers' existing category knowledge or 'schema' upon which they can rely to

generate inferences about the product (Fiske et al. 1987). If, however, consumers do have access to at least some attribute information, a mismatch between these attributes and their existing category knowledge might stimulate a more effortful attribute-based or bottom-up processing (Fiske et al. 1987; Fiske and Pavelchak 1986; Sujan 1985).

Based on these models, we expect that externally provided goal-based category labels will stimulate category-based processing such that an item belonging to a goal-based category will be perceived as more similar to the ideal product for fulfilling the goal enclosed in the label. This, in turn, will stimulate consumers to infer that this product possesses more of the ideal qualities for goal fulfillment. In other words, a goal-based category label might highlight the item's instrumentality for achieving that goal.

When specific attribute information is available, however, we predict that consumer inferences towards the ideal might be hindered. In cases where these attributes do not fit the ideal qualities needed for goal achievement, they could highlight aspects of the product that are more appropriate for achieving competing goals (Kruglanski et al. 2013). This might then dilute the strong link between the product and the goal-based category representation triggered by the label, making the product appear less ideal for achieving that goal (Zhang, Fishbach, and Kruglanski 2007). To illustrate, a cereal bar that is categorized under 'healthy snacking' might be perceived as less healthy when its packaging also carries a claim about its 'rich taste'; a claim that is more in line with the competing goal of indulgence (see also Raghunathan, Naylor, and Hoyer 2006). The validity of these predictions is examined in the following four experiments.

5.3 EXPERIMENT 1

Experiment 1 examined whether goal-based category labels influence the inferences consumers make about the products displayed under those labels. In particular, we examined the validity of the proposition that goal-based labels increase the perceived similarity between a product and an ideal product for satisfying the goal mentioned in the label. This experiment also tested whether such an increase in similarity affects the inferences consumers make, such that the items are perceived to possess more of the ideal qualities related to the goal-based label.

5.3.1 METHOD

One hundred and seventeen adults living across the United States (45% female; M_{Age} = 32.7, SD = 9.98) were recruited from MTurk and participated in return for a monetary reward. Respondents were randomly assigned to one of the conditions of a two-level experimental design and asked to evaluate different food items in three food-related contexts: breakfast, afternoon snacks and dinner menus. In both conditions and for each food context, there were five different food items that needed to be evaluated. These five items were presented in two goal-based categories labeled as "*healthy (breakfast / snacks / dinner)*" and "*indulgent (breakfast / snacks / dinner)*". The stimuli included both a verbal description (e.g., for snacks: "Greek Yoghurt (4oz)", "Carrot Sticks (4oz)", "Chocolate Granola Bar (2oz)", "Stuffed Cheese & Pepperoni Pizza (1 slice)", "Chocolate Iced Donut (1 donut)"), and a pictorial representation (see Appendix A for an illustration of the stimuli). Each respondent was confronted with these five items and two categories. But, depending on the experimental condition, the target product (breakfast: "scrambled eggs on toast", snacks: "chocolate granola bar", dinner: "hand-tossed Caesar Salad / Fish & Chips / Pumpkin Pie") was displayed either under the healthy or the indulgent goal-based category label.

After having viewed the assortment, respondents evaluated all products on their overall healthiness ('*Please rate these items on their healthiness*'; 1 = not at all healthy, 7 = very healthy)and overall tastiness ('*Please rate these items on their tastiness*'; 100 pt. scale ranging from 0 = 'not at all tasty' to 100 = 'very tasty'). Additionally, we also asked respondents to indicate to what extent each item was appropriate for healthy snacking (dinner/breakfast) and for indulging (7pt. scale; 1 = very inappropriate, 7 = very appropriate) and their similarity to a healthy or indulgent ideal food item (9-point semantic differential: '*Please indicate to what extent you feel this items is more similar to a fruit salad / a hot dog*'). The use of these items was based on past research indicating that such items are generally considered healthy (fruit salad) or indulgent (hot dog) (Chandon and Wansink 2007; Chernev 2011; Moorman 1996). Following the evaluation of the food items, respondents were asked to provide a numeric estimate of the calorie content of the target items in an open ended question. To reduce the variance in estimations resulting from respondents' lack of calorie-content knowledge (see Chernev and Gal 2010), two reference points were given: Greek Yoghurt (80 calories) and Pizza (959 calories).

5.3.2 RESULTS

The current research argues that consumer inferences about an item's unobservable features are influenced by its goal-based category label, such that the label increases an item's similarity to the ideal for achieving that specific goal. Additionally, this increased similarity was predicted to stimulate consumers to infer that the item has more of the qualities that are appropriate for goal fulfillment. In other words, we predicted that classifying a food item in a healthy (indulgent) category would increase its similarity to a fruit salad (hot dog), and decrease (increase) its perceived caloric content.

First, we examined whether the goal-based category label manipulation was effective in shaping the target product's perceived healthiness. We therefore compared the overall healthiness ratings of the target products across conditions. The data confirm that the category label successfully shifted respondents' perceptions towards the goal indicated by the label. To illustrate, in the breakfast context the item 'scrambled eggs on toast' was perceived as healthier when it was part of the 'healthy breakfast' category (M = 5.44, SD = 1.00) than when it fell into the 'indulgent breakfast' category (M = 4.41, SD = 1.34; F (1, 115) = 22.54, p < .001). The same pattern of data was found for snacks ($M_{\text{Healthy-Label}}$ = 4.74, SD = 1.39; $M_{\text{Indulgent-Label}}$ = 3.58, SD = 1.27; F (1, 115) = 21.98, p < .001) and dinner menus ($M_{\text{Healthy-Label}}$ = 4.37, SD = 1.39; $M_{\text{Indulgent-Label}}$ = 2.98, SD = 1.03; F (1, 115) = 36.87, p < .001). Healthiness ratings of the other four items in each food-related context (breakfast, dinner menu, snacking) did not differ across conditions (all p's > .10).

Analysis of the target items' tastiness ratings, however, yielded mixed results. For snacks there was no significant difference in perceived tastiness of the cereal bar between conditions ($M_{\text{Healthy-Label}}$ = 70.74, SD = 15.20; $M_{\text{Indulgent-Label}}$ = 71.36, SD = 18.72; F (1, 115) = .039, p = .841), whereas the difference in tastiness of the target item between conditions was marginally significant for dinner menus ($M_{\text{Healthy-Label}}$ = 70.26, SD = 17.22; $M_{\text{Indulgent-Label}}$ = 75.84, SD = 15.75; F (1, 115) = 3.311, p = .071) and significant for breakfast items ($M_{\text{Healthy-Label}}$ = 62.77, SD = 18.36; $M_{\text{Indulgent-Label}}$ = 70.56, SD = 19.88; F (1, 115) = 4.855, p = .030).

We further tested whether the target items were perceived as more appropriate for health or indulgence depending on their category label. This appeared to be the case. Items were seen as more appropriate for health when placed under a health-related category label in all three contexts: snacks ($M_{\text{Healthy-Label}}$ = 5.44, SD = 1.18; $M_{\text{Indulgent-Label}}$ = 3.84, SD = 1.46; F (1, 115) = 42.691, p < .001), dinner menus ($M_{\text{Healthy-Label}}$ = 4.65, SD = 1.60; $M_{\text{Indulgent-Label}}$ = 2.78, SD = 1.26; F (1, 115) = 48.174, p < .001), and breakfast ($M_{\text{Healthy-Label}}$ = 5.65, SD = 0.89; $M_{\text{Indulgent-Label}}$ = 4.56, SD = 1.24; F (1, 115) = 29.76, p < .001). In contrast, appropriateness for indulging was perceived as higher when the target item was member of the indulgent category: snacks ($M_{\text{Healthy-Label}}$ = 4.37, SD = 1.61; $M_{\text{Indulgent-Label}}$ = 5.00, SD = 1.44; F (1, 115) = 4.903, p = .029), dinner menus ($M_{\text{Healthy-Label}}$ = 3.95, SD = 1.61; $M_{\text{Indulgent-Label}}$ = 5.73, SD = 1.10; F (1, 115) = 47.228, p < .001), and breakfast ($M_{\text{Healthy-Label}}$ = 3.69, SD = 1.55; $M_{\text{Indulgent-Label}}$ = 4.89, SD = 1.52; F (1, 115) = 17.632, p < .001).

Next, we tested whether the goal-based category label pushed similarity ratings of the target item towards an ideal item for achieving the goal mentioned in that label. The data summarized in table 5.1 confirm our predictions. When the target item was part of the healthy category it was perceived as more similar to a

fruit salad, whereas that same item was seen as more similar to a hot dog if it belonged to the indulgent category: breakfast ($M_{\text{Healthy-Label}}$ = 4.00, SD = 1.66; $M_{\text{Indulgent-Label}}$ = 5.13, SD = 1.54; F (1, 115) = 14.38, $p < .001$), snacks ($M_{\text{Healthy-Label}}$ = 3.71, SD = 1.46; $M_{\text{Indulgent-Label}}$ = 5.38, SD = 1.80; F (1, 115) = 31.06, $p < .001$), and dinner menus ($M_{\text{Healthy-Label}}$ = 3.63, SD = 1.65; $M_{\text{Indulgent-Label}}$ = 6.71, SD = 1.46; F (1, 115) = 112.83, $p < .001$).

Furthermore, the data show that respondents in the 'healthy'-label condition estimated the caloric content of the target products to be lower than those in the 'indulgent'-label conditions. This shift in calorie estimates was found across all food contexts tested in the experiment: breakfast ($M_{\text{Healthy-Label}}$ = 278.50, SD = 117.51; $M_{\text{Indulgent-Label}}$ = 388.82, SD = 134.05; F (1, 115) = 22.50, $p < .001$), snacks ($M_{\text{Healthy-Label}}$ = 132.02, SD = 55.42; $M_{\text{Indulgent-Label}}$ = 252.18, SD = 147.08; F (1, 115) = 35.70, $p < .001$), and dinner menus ($M_{\text{Healthy-Label}}$ = 649.35, SD = 225.97; $M_{\text{Indulgent-Label}}$ = 1172.55, SD = 387.81; F (1, 115) = 81.65, $p < .001$).

TABLE 5.1: INFERENCE MEASURES (EXPERIMENT 1)

Table 5.1

INFERENCES TOWARDS THE IDEAL (EXPERIMENT 1)

	'Healthy' Goal-Based Category Label			*'Indulgent' Goal-Based Category Label*		
	Breakfast	*Snacks*	*Dinner Menu*	*Breakfast*	*Snacks*	*Dinner menu*
Healthiness (7pt. Scale)	5.44 (1.00)	4.74 (1.39)	4.37 (1.39)	4.41 (1.34)	3.58 (1.27)	2.98 (1.03)
Tastiness (100pt. scale)	62.77 (18.36)	70.74 (15.20)	70.26 (17.22)	70.56 (19.88)	71.63 (18.72)	75.84 (15.75)
Appropriateness Health (7pt. Scale)	5.65 (0.89)	5.44 (1.18)	4.65 (1.60)	4.56 (1.24)	3.84 (1.46)	2.78 (1.26)
Appropriateness Indulge (7pt. Scale)	3.69 (1.55)	4.37 (1.61)	3.95 (1.61)	4.89 (1.52)	5.00 (1.44)	5.73 (1.10)
Similarity to ideal (9pt. Differential)	4.00 (1.66)	3.71 (1.46)	3.63 (1.65)	5.13 (1.54)	5.38 (1.80)	6.71 (1.46)
Calorie estimate (open-ended)	278.50 (117.51)	132.02 (55.42)	649.35 (225.97)	388.82 (134.05)	252.18 (147.08)	1172.55 (387.81)

NOTE.–The goal-based category labels drives consumers' inferences of the target item towards the ideal for fulfilling the goal enclosed in the label. Reported are mean scores with standard deviations between brackets.

5.3.3 DISCUSSION

The findings reported in Experiment 1 lend support for the proposition that goal-based category labels affect the inferences consumers make. In particular, Experiment 1 showed that from the goal-based label of the category to which a product belongs, consumers infer that this product possesses more of a quality that is ideal for achieving that goal. In particular, the data show that the same item is believed to contain fewer calories when it is labeled with a 'health' goal compared to an 'indulge' goal. Furthermore a same item was perceived as more healthy if it was part of the 'healthy' goal-based category, yet more tasty if it belonged to the 'indulging' category. Also, the items' perceived appropriateness for health versus indulgence strongly depended on the goal-based category label under which they were placed.

Overall, this first experiment documented that goal-based category labels can have a strong impact on consumers' inferences. Because an increase in perceived similarity with the ideal appears to underlie this effect, it is also important to understand what factors might reduce this similarity, and, consequently, might hinder the generation of inferences towards that ideal. The next study examines whether including an item in multiple goal-based categories affects the impact of the category label on consumers' perceptions of an item's similarity to the ideal, as well as on the inferences consumers make.

5.4 EXPERIMENT 2

The primary goal of Experiment 2 was to test whether multifinality reduces inferences towards the ideal for a goal. In this context, Experiment 2 sought to examine whether including a single item simultaneously in more than one goal-based category would reduce category-based inferences or not. In the context of goal-based categories, such multi-category memberships are very plausible since a unique item-to-goal linkage is very unlikely: most items are able to serve multiple goals (Kruglanski et al. 2013). Importantly, the items in this experiment are presented without attribute information in order to stimulate a purely categorical evaluation of the item (Fiske et al. 1987).

We further argue that including an item in multiple goal-based categories should reduce category inferences, but only if the goals of these categories conflict with each other. In other words, when the ideal qualities related to the goal-based categories in which the item is included are at odds with each other, we expect reduced inferences towards the ideal of each goal-based label. However, when the ideal qualities of both categories are reconcilable, we expect no conflict and, thus, greater inferences towards the ideal.

5.4.1 METHOD

One hundred and eighteen adults living across the United States (48.3% female; M_{Age} = 38.8, SD = 12.7) were recruited from MTurk. As in the first experiment, the design of the study involved one target item ('Chocolate Granola Bar') for which category membership was manipulated across experimental conditions. Unlike the first experiment, however, this experiment used three goal-based categories as stimuli: 'healthy snacks', 'convenient snacks', and 'indulgent snacks'. The design of the stimuli was consistent with the first experiment, and included verbal descriptions and a pictorial representation (see appendix B).

Note that two of these goal-based categories are rather conflicting ('healthy' and 'indulgent'), meaning that it is difficult for an item (snack) to possess the ideal qualities for fulfilling both goals. To illustrate, a product that is very healthy and has few calories is not likely to be able to fulfill an indulgence goal, a goal often related to qualities such as rich taste and high calorie content (see also Raghunathan, Naylor, and Hoyer 2006). The third goal-based category of 'convenience' is not in conflict with the 'healthy' one, meaning that membership of this category does not preclude membership of one of the other two categories. To illustrate, both a Chocolate Iced Donut (indulgent snack) as well as a pack of Trail Mix Nuts (healthy snack) can be considered as convenient snacks.

In the experiment, participants were randomly assigned to one of three conditions. Across conditions we manipulated category membership of the target product ('Chocolate Granola Bar'), such that it was part of either the healthy category alone (single category), the healthy and convenient category (multiple non-conflicting categories), or the healthy and indulgent category (multiple conflicting categories). After reviewing the assortment, participants in each condition went on to evaluate all items in the assortment on most of the

dimensions used in the first experiment (and measured accordingly): perceived healthiness, similarity to an ideal, appropriateness for healthy snacking, appropriateness for indulgent snacking, and calorie estimation.

5.4.3 RESULTS

First, we analyzed whether being member of more than one goal-based category changed the perceived appropriateness of the target item for the goal of healthy snacking. The data, summarized in table 5.2, show that the same item was indeed perceived differently across conditions (F (2, 115) = 79,076; $p < .001$): the granola bar was considered more appropriate when it was part of the 'Healthy' category alone ($M = 5.51$, SD = 1.22) than when it was also included in the 'Indulgent' category ($M = 2.53$, SD = 1.39; F(1, 115) = 122.09, $p < .001$). Yet, inclusion into another, non-orthogonal goal-based category ('Convenient') did not affect the item's appropriateness for healthy snacking ($M = 5.63$, SD = 1.03; F(1, 115) = .181, $p = .672$). Also the difference between both multiple-category conditions was significant (F(1, 115) = 116.63, $p < .001$).

Also the item's appropriateness for indulgent snacking differed across conditions (F(2, 115) = 10.217, $p < .001$). In particular, the target item's appropriateness for indulgent snacking was perceived as higher when it was also included in the 'Indulge' category compared to when it was only part of the 'Healthy' category (see table 5.2; F(1, 115) = 16.341, $p < .001$). On the other hand, when it was also included in the 'Convenient' category, its appropriateness for indulgent snacking was unaffected relative to the 'Healthy' category alone condition (F(1, 115) < 1).

TABLE 5.2: INFERENCE MEASURES (EXPERIMENT 2)

TABLE 5.2

INFERENCES FOR SINGLE OR MULTIPLE CATEGORY MEMBERSHIP (EXPERIMENT 2)

	Category Membership		
	Single ('Healthy')	Multiple Conflicting ('Healthy' & 'Indulgent')	Multiple Non-Conflicting ('Healthy' & 'Convenient')
Appropriateness for Healthy Snacking (7pt. Scale)	5.51 (1.22)	2.53 (1.39)	5.63 (1.03)
Appropriateness for Indulgent Snacking (7pt. Scale)	4.40 (1.62)	5.71 (1.04)	4.40 (1.67)
Healthiness (7pt. Scale)	5.18 (1.19)	2.37 (1.13)	5.00 (1.25)
Similarity to ideal (9pt. Differential)	3.36 (1.26)	6.92 (1.65)	3.17 (1.34)
Calorie estimate (open-ended)	143.87 (59.77)	290.53 (131.11)	134.43 (60.46)

NOTE.–Under conflicting goal-related ideal qualities, inferences towards the ideal are attenuated. In the table means are reported for each variable with standard deviations between brackets.

In accordance with these results, the target item's perceived healthiness also differed across conditions ($F(2, 115) = 67.856$, $p < .001$). The data show that the same item was seen as significantly less healthy if it was included in the two conflicting categories ($M = 2.37$, SD = 1.13) relative to the single category ($M = 5.18$, SD = 1.19; $F(1, 115) = 114{,}426$, $p < .001$) and non-conflicting multiple category conditions ($M = 5.00$, SD = 1.25; $F(1, 115) = 88.788$, $p < .001$). The difference between the latter two conditions was not significant ($F(1, 115) = .438$, $p = .509$).

Next, we test whether multi-category membership affected the target item's perceived similarity towards the ideal of either 'healthy snacking' or 'indulgent snacking'. Results confirm this is the case across conditions ($F(2, 115) = 85.031$, $p < .001$): a 'Chocolate Granola Bar' was perceived as significantly more similar to a 'Hot Dog' when it was included in both the 'Healthy' and 'Indulgent' goal-based category ($M = 6.92$, SD = 1.65) than when it was displayed under the 'Healthy' goal-based category label alone ($M = 3.36$, SD = 1.26; $F(1, 115) = 129.80$, $p < .001$) or under the 'Healthy' and 'Convenient' label simultaneously ($M = 3.17$, SD = 1.34; $F(1, 115) = 126.95$, $p < .001$). Again, no differences were found between the single category and multiple non-conflicting categories conditions ($F(1, 115) = .331$, $p = .566$).

Consumers' inferences about the caloric content of the target item followed a similar pattern ($F(2, 115) = 36.820$, $p < .001$). More specifically, the data show that consumers inferred greater caloric content in the multiple conflicting category condition ($M = 290.53$, SD = 131.11) relative to the multiple non-conflicting ($M = 134.43$, SD = 60.46; $F(1, 115) = 55.543$, $p < .001$) and the single category condition ($M = 143.87$, SD = 59.77; $F(1, 115) = 55.643$, $p < .001$). Including the item in an additional non-conflicting category ('Convenient') did not affect calorie inferences compared to exclusively being part of the 'Healthy' category ($F(1, 115) = .220$, $p = .640$).

5.4.4 Discussion

The data furnished by this experiment are consistent with the proposition that multifinality may reduce the impact of goal-based category labels on the inferences consumers make. In particular, these results show that categorizing items in multiple, conflicting goal-based categories attenuates the effect of the category label on inferences towards the category's ideal. This makes sense since the ideal qualities that a product should have to fulfill the goal of the first goal-based category seem to be in conflict with the ideal qualities of the second goal-based category.

This experiment further shows that multifinality does not hinder goal-based category inferences per se. In situations where the ideal qualities of the multiple goal-based categories are not mutually exclusive, consumers perceive less conflict and the effect of the goal-based category label on inferences towards the ideal persists. In such cases, the goal-based categories are non-conflicting and overlap between them in terms of category members is perfectly acceptable.

The first two experiments provided support for the notion that goal-based category labels influence consumers' inferences about the items within those categories. In particular, they drive inferences towards the ideal of the goal to which the label refers, unless an item is part of multiple conflicting categories. An alternative approach to further test when these goal-based category inferences should or should not occur, is to make attribute information available that is either consistent with the goal-based label or consistent with conflicting goals. Such conflicting attribute information should reduce inferences towards the ideal for the goal-based category. The following experiment was designed to test this proposition.

5.5 EXPERIMENT 3

The goal of Experiment 3 is to provide further support for the notion that goal-based category labels encourage consumer inferences towards the ideal for goal achievement by examining whether this effect is weakened by making conflicting information available at the attribute level. Whereas in experiments 1 and 2 items were displayed in goal-based categories without attribute information, the current experiment adds a situation in which attribute information is available that is either consistent with the goal-based label, or inconsistent such that the item appears to be instrumental for multiple, conflicting goals (i.e., multifinal). We expected that consistent attribute information would not affect inferences compared to a no-attribute information situation, whereas inconsistent information should attenuate the effects of the goal-based category label on the inferences people make (Fiske et al. 1987; Fiske and Pavelchak 1986; Kruglanski et al. 2013; Sujan 1985; Zhang, Fishbach, and Kruglanski 2007).

In addition, this experiment examined whether the inferences people generate from the goal-based category label are limited to goal-relevant dimensions of the product; i.e., those dimensions that are appropriate for goal achievement. Based on our proposed theory this should indeed be the case given that goal-based categories are formed around a limited set of ideal qualities that a product must possess to be able to serve that specific goal. As a result, a goal-based category label should only generate inferences on those ideal qualities and not on other, goal-irrelevant dimensions.

5.5.1 PRETEST

We first conducted a pretest with a separate group of respondents recruited from an online commercial panel (N = 30; 57% female; M_{Age} = 37.5, SD = 15.24). The goal of this pretest was twofold. Firstly, we wanted to generate stimuli for the main experiment. In particular, we aimed to identify holiday destinations that were considered more ideal for a 'Food & Culture' holiday versus destinations more appropriate for 'Beach & Relax' Holidays. To this end, we asked respondents to indicate for a large number of holiday destinations their idealness for both goals (5-point differential anchored by 'more ideal for a Relax/Beach holiday' and 'more ideal for a Food/Culture holiday, with a neutral midpoint 'equally ideal/not ideal for both'). Based on this measure, we identified two destinations that were used in the main experiment as typical 'Relax & Beach' destinations - 'Maldives' (M = 1.77, SD = .90) and 'Punta Cana' (M = 2.00, SD = 1.11) – as well as two destinations typical for 'Food & Culture' holidays: 'Paris' (M = 4.47, SD = .78) and 'Tokyo' (M = 4.47, SD = .90). For both goals we also identified an ideal destination based on the lowest and highest average scores on the idealness measure, respectively 'Honolulu' (M = 1.47, SD = .77) and 'New York' (M = 4.63, SD = .72). Finally, we singled out one destination that was perceived to be able to serve both goals and would be used as target destination in the main experiment; 'Barcelona' (M = 3.53, SD = .97). This latter destination was perceived as significantly different from the ideal destination for both the 'Relax/Beach' category ($t(29) = 9.265$, $p < .001$) and the 'Food/Culture' category ($t(29) = 4.649$, $p < .001$).

We also asked respondents to indicate for a number of holiday-related attributes whether they were more typical for either a 'Beach & Relax' or a 'Food & Culture' holiday (5-point differential anchored by 'typical for a Relax/Beach holiday' and 'typical for a Food/Culture holiday, with a neutral midpoint 'typical/not typical for both'). This allowed us to detect one attribute highly typical for the 'Beach & Relax' goal ('number of spas and wellness centers'; *M* = 2.10, SD = .99), and one attribute not typically related to one of these goals ('local hospitality'; *M* = 3.20, SD = .89) for which we asked respondents to generate inferences in the main experiment. Note that we also identified one attribute that was most strongly related to the 'Beach & Relax' goal ('miles of coastline'; *M* = 1.43, SD = .626) and one that was most strongly related to the 'Food & Culture' goal ('number of Michelin star restaurants'; *M* = 4.33, SD = .844). These attributes were included in the stimuli used in the main experiment.

5.5.2 METHOD

Respondents, 304 members of MTurk and all living in the United States (48% female; M_{Age} = 33.1, SD = 12.12), were randomly assigned to the conditions of a 2 (goal-based label: 'Food & Culture' vs. 'Beach & Relax') x 3 (attribute information: none vs. goal-consistent vs. goal-inconsistent) and asked to evaluate a number of holiday destinations. These destinations were grouped in two categories with a goal-based category label on top: 'Food & Culture Holidays' (including the destinations 'Punta Cana' and 'The Maldives') vs. 'Beach & Relax Holidays' (including the destinations 'Paris' and 'Tokyo'). One holiday destination ('Barcelona') served as the target item and, depending on the experimental condition, this item was part of one of the two goal-based categories. Thus, for some of the respondents this destination was labeled as a 'Food & Culture' destination, whereas for others that same destination was categorized as a 'Beach & Relax' destination.

In addition to varying the goal-based category label, we also manipulated whether the items were presented with or without attribute information. When no attribute information was given, respondents only saw the name of the destination and a picture. When attribute information was available, however, we included information about attributes related to the goals described in the category labels. In one condition, this attribute was appropriate for achieving the goal of the target destination's category label ('goal-consistent'), in another condition this attribute was appropriate for achieving the goal of the other category label ('goal-inconsistent'). To illustrate, when 'Barcelona' was part of the 'Beach & Relax Holidays' category, the goal-consistent attribute information was its miles of accessible beaches. When it was part of the 'Food & Culture Holidays' category, the goal-consistent piece of information was the number of Michelin starred restaurants it offers. In contrast, under the inconsistent information condition respondents were informed about the miles of beaches (number of Michelin starred restaurants) if the target destination was part of the 'Food & Culture' ('Beach & Relax') category (see Appendix C for an illustration). We included this inconsistent information condition to test whether concrete attribute information could reduce the impact of the goal-based category label on inferences towards the ideal.

After having viewed the stimuli, respondents moved on to evaluate the target destination on a number of dimensions. First of all, respondents evaluated how similar 'Barcelona' is to an ideal destination for either a Food & Culture holiday or a Beach & Relax holiday ('Please indicate to what extent you think Barcelona is more similar to New York vs. Honolulu' on a 9-point semantic differential) and to what extent it is an ideal destination for a 'Beach & Relax' and a 'Food & Culture' holiday (9-point scales anchored by 1 = 'very far from ideal', 9 = 'very close to ideal'). Next, respondents indicated how appropriate this destination is for another, unrelated goal: a 'Romantic holiday' (7-point scale anchored by 1 = 'very inappropriate', 7 = 'very appropriate'). Respondents also had to infer how many tourists would visit Barcelona with a goal of relaxing ('Of all yearly tourists, which percentage do you think visits this destination for relaxing purposes'; 0 - 100% slider). Next we asked respondents to generate inferences about one goal-related (available number of spas and wellness centers; 7-point scale anchored by 1 = 'very few, 7 = 'a lot') and one goal-unrelated dimension (local hospitality; 7-point scale anchored by 1 = 'very bad', 7 = 'very good') that were generated in the pretest (e.g., '*How many spas and wellness centers do you believe [Barcelona] has to offer?*').

5.5.3 RESULTS

This research argues that the effect of goal-based category labels on consumers' inferences reported in the first experiments would not hold if salient attribute information would be available that does not fit into the schema evoked by the goal-based category label. Thus, goal-based category labels should induce inferences towards the ideal, only when attribute information is either missing or consistent with that goal. If conflicting attribute information is available, respondents might to resort to more attribute-based processes which should attenuate the effects of the category label.

To assess the validity of these predictions, we first test whether the perceived similarity of the target destination ('Barcelona') with an ideal destination for each goal described in the category labels varies across conditions. Results of an analysis of variance reveal that the goal-based category label had a significant effect on perceived similarity ($F(1, 298) = 93.833$, $p < .001$), and that this effect was qualified by a two-way interaction with the type of information that was available ($F(1, 298) = 29.803$, $p < .001$). Type of information had no main effect on perceived similarity ($F(1, 298) = .718$, $p > .10$). The data summarized in table 5.3 show that the target destination ('Barcelona') was seen as more similar to the ideal destination for the goal described in the category label, both if there was no attribute information ($M_{\text{Food \& Culture}} = 2.82$ (SD = 1.79), $M_{\text{Beach \& Relax}} = 6.49$ (SD = 2.14); $F(1, 298) = 82.644$, $p < .001$), as well as when the attribute information was in line with the goal-based label of the category in which the target destination was placed ($M_{\text{Food \& Culture}} = 2.60$ (SD = 1.43), $M_{\text{Beach \& Relax}} = 6.08$ (SD = 2.59); $F(1, 298) = 71.773$, $p < .001$). In contrast, there was no difference in perceived similarity when the available attribute information was inappropriate for the goal-based category of which the target destination was member ($M_{\text{Food \& Culture}} = 4.53$ (SD = 2.07), $M_{\text{Beach \& Relax}} = 4.24$ (SD = 2.17); $F(1, 298) = .515$, $p > .10$).

TABLE 5.3: PERCEIVED SIMILARITY TO A TYPICAL ITEM (EXPERIMENT 3)

TABLE 5.3

PERCEIVED SIMILARITY TO A TYPICAL ITEM FOR GOAL ACHIEVEMENT (EXPERIMENT 3)

	Experimental condition		
	No attribute information	Goal-consistent attribute information	Goal-inconsistent attribute information
"Food & Culture Holiday"	2.82 (1.79)	2.60 (1.43)	4.53 (2.07)
"Beach & Relax Holiday"	6.49 (2.14)	6.08 (2.59)	4.24 (2.17)

NOTE.–The goal-based category labels affected the target item's similarity with a typical item that is ideal for the goals described in the labels. This effect, however, was attenuated in cases where attribute information was available that was inconsistent with the category label. In the table, mean scores are presented (with their standard deviations) on a 9pt. differential (1= '*more similar to New York*', 9 = '*more similar to Honolulu*').

Next, we test whether the goal-based category label under which the target destination is displayed can change its perceived idealness for the goals mentioned in those labels. Results of an ANOVA show that the goal-based category label had a main effect on the target destination's idealness for 'Beach & Relax' ($F(1, 298) = 129.396$, $p < .001$), as well as for 'Food & Culture' holidays ($F(1, 298) = 65.202$, $p < .001$), and that this effect interacted with that of attribute information type ($F_{\text{Beach \& Relax}}(1, 298) = 35.261$, $p < .001$; $F_{\text{Food \& Culture}}(1, 298) = 8.350$, $p < .001$). Type of attribute information in itself had no significant main effect on idealness ($F_{\text{Beach \& Relax}}(1, 298) = .095$, $p > .10$; $F_{\text{Food \& Culture}}(1, 298) = .098$, $p > .10$).

When no attribute information was available and 'Barcelona' was part of the 'Beach & Relax' category, it was perceived as significantly more ideal for a 'Beach & Relax' holiday compared to when it was part of the 'Food & Culture' category ($M_{\text{Food \& Culture}} = 3.20$ (SD = 2.18), $M_{\text{Beach \& Relax}} = 7.09$ (SD = 1.83); $F(1, 298) = 85.194$, $p < .001$). The opposite pattern emerged for its perceived idealness for 'Food & Culture' holiday ($M_{\text{Food \& Culture}} = 8.41$ (SD = .88), $M_{\text{Beach \& Relax}} = 6.19$ (SD = 1.94); $F(1, 298) = 47.469$, $p < .001$). When attribute information was available that was consistent with the category label under which 'Barcelona' was displayed (i.e., miles of beaches if part of 'Beach & Relax', or number of star restaurants if part of 'Food & Culture') a similar result was found, both for its idealness for a 'Beach & Relax' holiday ($M_{\text{Food \& Culture}} = 2.94$ (SD = 2.09), $M_{\text{Beach \& Relax}} = 7.58$ (SD = 1.37); $F(1, 298) = 115.965$, $p < .001$) as well as for a 'Food & Culture' holiday ($M_{\text{Food \& Culture}} = 8.17$ (SD = .99), $M_{\text{Beach \& Relax}} = 6.27$ (SD = 2.14); $F(1, 298) = 33.378$, $p < .001$). In contrast, when attribute information was inconsistent with the goal-based category label yet more in line with the other goal-based label (i.e., number of star restaurants if part of 'Beach & Relax', or miles of beaches if part of 'Food & Culture'), the effect of the category label on perceived idealness dissolved. Under such conditions, irrespective of its goal-based category membership, 'Barcelona' was seen as equally ideal for a 'Beach & Relax' holiday, ($M_{\text{Food \& Culture}} = 5.20$ (SD =

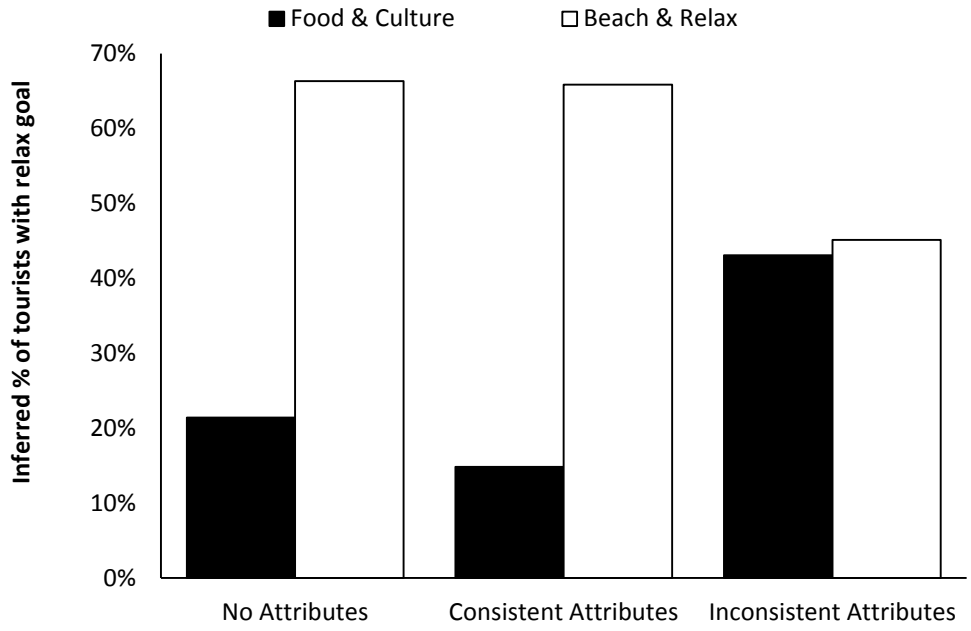
2.47), $M_{\text{Beach \& Relax}}$ = 5.10 (SD = 2.71); F(1, 298) = .061, $p > .10$), and equally ideal for a 'Food & Culture' holiday ($M_{\text{Food \& Culture}}$ = 7.43 (SD = 1.32), $M_{\text{Beach \& Relax}}$ = 6.48 (SD = 2.08); F(1, 298) = 1.855, $p > .10$).

Also note that attribute information which makes the item appear to serve multiple goals (i.e., multifinal) dilutes its perceived instrumentality for the goal mentioned in the goal-based category label. When 'Barcelona' was part of the 'Beach & Relax' category, including information about its number of star restaurants decreased its idealness for a 'Beach & Relax' holiday (M = 5.10, SD = 2.71) compared to the no-information (M = 7.09, SD = 1.83; F(1, 298) = 21.735, $p < .001$) and consistent-information condition (M = 7.58, SD = 1.37; F(1, 298) = 27.838, $p < .001$). Similarly, when part of the 'Food & Culture' goal-based category, inconsistent attribute information (i.e., the miles of beaches at 'Barcelona') diluted its idealness towards that goal (M = 7.43, SD = 1.32) relative to the conditions where no attribute information was available (M = 8.41, SD = .88; F(1, 298) = 8.972, $p < .01$) or the available attribute information was in line with the goal-based category label (M = 8.17, SD = .99; F(1, 298) = 5.168, $p < .05$).

We also asked respondents to make inferences about two dimensions related to one of the goal-based category labels ('Beach & Relax'): which percentage of yearly tourists at Barcelona are there to relax, and how many spas and wellness centers Barcelona offers. Results confirm that the goal-based category label had a significant effect on the inferences respondents made on both goal-based dimensions (see Figure 5.1). Particularly, respondents believed that more tourists came to Barcelona to relax when categorized as a 'Beach & Relax' rather than a 'Food & Culture' destination, both when no attribute information was given ($M_{\text{Food \& Culture}}$ = 21.43 (SD = 23.61), $M_{\text{Beach \& Relax}}$ = 66.32 (SD = 24.85); F(1, 298) = 80.631, $p < .001$) and when attribute information was consistent with the goal-based category label ($M_{\text{Food \& Culture}}$ = 14.85 (SD = 20.63), $M_{\text{Beach \& Relax}}$ = 65.85 (SD = 23.66); F(1, 298) = 99.983, $p < .001$). When attribute information was inconsistent with the goal-based category label, the label had no effect ($M_{\text{Food \& Culture}}$ = 43.08 (SD = 28.09), $M_{\text{Beach \& Relax}}$ = 45.14 (SD = 30.87); F(1, 298) = .163, $p > .10$).

FIGURE 5.1 : INFERENCES ON GOAL-RELEVANT DIMENSION (EXPERIMENT 3)

Figure 5.1
THE IMPACT OF CATEGORY LABEL AND ATTRIBUTE INFORMATION
ON INFERENCES (EXPERIMENT 3)



NOTE.–The effect of the based category label on consumer inferences are attenuated in situations where attribute information is available that is inconsistent with that label.

A similar effect of the experimental factors was found for respondents' inferences on the other goal-related dimension: the number of spas and wellness centers in Barcelona ($F_{\text{Category Label}}$ (1, 298) = 22.016, p < .001; $F_{\text{Attribute Information}}$ (1, 298) = 2.593, p > .05; $F_{\text{Interaction}}$ (1, 298) = 3.352, p < .05). When attribute information was lacking ($M_{\text{Food \& Culture}}$ = 4.94 (SD = 1.49), $M_{\text{Beach \& Relax}}$ = 5.58 (SD = 1.15); F(1, 298) = 6.195, p < .05) or available attributes were consistent with the goal-based category label ($M_{\text{Food \& Culture}}$ = 4.67 (SD = 1.41), $M_{\text{Beach \& Relax}}$ = 5.90 (SD = 1.02); F(1, 298) = 21.466, p < .001), respondents inferred that Barcelona offered more spas when it was part of the 'Beach & Relax' category then when it was part of the 'Food & Culture' category. This effect was attenuated when attribute information was inconsistent with the goal-based category label ($M_{\text{Food \& Culture}}$ = 4.78 (SD = 1.49), $M_{\text{Beach \& Relax}}$ = 5.04 (SD = 1.26); F(1, 298) = 1.000, p > .10).

The results reported so far have focused on inferences on dimensions related to the goal-based category label. Although a goal-based category label can affect the inferences consumers make, its effect should be limited to goal-related dimensions and those dimensions alone. To test this, perceived appropriateness for a 'Romantic' holiday (a dimension presumably unrelated to one of the goals mentioned in the category labels) was submitted to a 2 (goal-based category label: 'Beach & Relax' vs. 'Food & Culture') x 3 (attribute information: no information vs. goal-consistent vs. goal-inconsistent) ANOVA. Results confirm that the goal-

based category label had no effect on Barcelona's perceived appropriateness for a romantic holiday ($F(1, 298) = .730$, $p > .10$), nor did the type of attribute information that was available ($F(1, 298) = .420$, $p > .10$) or their interaction ($F(1, 298) = 2.020$, $p > .10$). In the same vein, the goal-based category label had no effect on inferences about a goal-unrelated attribute such as 'local hospitality' ($F_{\text{Category Label}}(1, 298) = .351$, $p > .10$; $F_{\text{Attribute Information}}(1, 298) = .367$, $p > .10$; $F\ I_{\text{nteraction}}(1, 298) = .098$, $p > .10$).

5.5.4 DISCUSSION

The results of Experiment 3 provide additional support for the notion that goal-based category labels drive consumer inferences towards the ideal for that goal and demonstrate that these inferences are limited to only those dimensions that are instrumental for goal achievement. This finding suggests that inference making in goal-based assortments differs from that in nominal product categories in an important way. Whereas a product category label affects inferences about the presence or absence of certain attributes in an item, goal-based category labels appear to drive perceptions of that item such that it appears to perform better (i.e., closer to the ideal) on goal-related, but not on goal-unrelated dimensions. This notion is supported by categorization research demonstrating that nominal product categories are based on feature similarities (i.e., the presence of common attributes), whereas goal-derived categories are based on the idealness or instrumentality of items for goal fulfillment (Barsalou 1985; Loken, Barsalou, and Joiner 2008; Ratneshwar et al. 2001; Rosch 1978).

In addition, Experiment 3 introduces a boundary condition to the effect of goal-based category labels on such inferences towards the ideal. Consistent with our theorizing, the availability of inconsistent information might hinder goal-based inferences. In particular, Experiment 3 shows that goal-based category labels drive inferences towards the ideal when no attribute information was present or when the available attribute information was consistent with the goal-based category label. When the attribute information was inconsistent with the goal-based label (but mapped better on the other goal-based label in the assortment), however, the effect of that label on consumers' inferences dissipated. In line with research on social perception (Fiske et al. 1987; Fiske and Pavelchak 1986), inconsistent attribute information may have evoked a more attribute- instead of category-based processing of the items, impeding the effect of the goal-based label on consumers' perceptions of the item.

5.6 General Discussion

In this research, we argue that goal-based category labels affect consumers' perceptions of the items constituting these categories. In particular, we contend that items displayed in goal-based assortments will be perceived as more similar to the ideal mean for achieving the goal specified in the category label. In line with this, the label will lead consumers to infer that an item possesses more of the ideal qualities needed for goal attainment. These inferences towards the ideal, however, are limited to dimensions that are related to those goals. Furthermore, the presence of inconsistent information – be it via multiple category membership or attribute information – might hinder the inferential process.

The proposition that the inferences consumers make about unknown attributes can be influenced by the goal-based category label under which it is displayed, is supported by the data of three experiments. Experiment 1 attests to the existence of the goal-based category inferences and showed that goal-based category labels lead to greater perceived similarity between an item and the ideal for goal attainment. This experiment further documents that a specific item will be perceived to possess more of those qualities that are ideal for attainment of the goal enclosed in the category label. Experiment 2 further examined goal-based category inferences by establishing a boundary condition for the effects observed in the first experiment. This experiment shows that being categorized in multiple goal-based categories attenuates the effect of the category label on inferences provided that these categories are somehow conflicting in terms of their ideal qualities. If they are not conflicting, the effect goal-based category inferences ensue. Building on these first two experiments, Experiment 3 documents that it is indeed the presence of inconsistent information that attenuates the goal-based category inferences. In particular, this experiment documents that making available attribute information that does not fit the goal-based category label (i.e., attributes that better fit the attainment of a conflicting goal) is enough to thwart the effects found in the previous experiments. Such inconsistent information might provoke a more bottom-up, attribute-based rather than top-down categorical evaluation of an item, impeding inferences about the item towards the ideal for that goal. This experiment also demonstrates that inferred qualities are restricted to those product characteristics that are instrumental for goal attainment.

From a theoretical standpoint, this research contributes to the literature on consumer inferences by applying the notion of category-based deduction in the context of goal-based assortments. Previous research on inferential mechanisms demonstrates that consumers not only infer unknown attribute levels from the levels of known attributes (e.g., Bettman, John, and Scott 1986; Broniarczyk and Alba 1994; Dick, Chakravarti, and Biehal 1990; Huber and McCann 1982; Raghunathan, Naylor, and Hoyer 2006), but also draw inferences about the presence and or absence of certain attributes in products based on their product category membership (Kardes, Posavac, and Cronley 2004; Sujan and Dekleva 1987). This makes sense since a product category is formed based on similarities among products, such that a product category label is associated with and predictive of the presence of a number of typical features.

Goal-based categories, on the other hand, do not hinge on feature-level similarities and often include physically very dissimilar items. Contrary to the intuitive prediction that this characteristic of goal-based categories might discourage category-based inferences, we find that goal-based category labels have a strong impact on consumer perceptions of items. In particular, we find that a goal-based category label increases an item's perceived similarity with an ideal for goal attainment. Additionally, such labels lead consumers to infer that the item should also possess more of the ideal qualities needed for goal fulfillment. Thus, whereas previous research on category-based inferences demonstrated how product category labels affect consumer inferences on the *presence or absence* of certain attributes, this research shows that goal-based category labels drive inferences about *how much* of an ideal quality items possess.

The results reported in this research also have important practical implications. When deciding how to organize the assortment in categories, retailers need to keep in mind how the category label might shape consumers' impressions of the items within those categories. In particular, we find that the same product will be perceived as offering very different benefits depending on the goal-based category label under which it is displayed. Furthermore, the widespread practice of displaying a single item in multiple categories or locations (e.g., second placements) raises the issue of multifinality or the notion that a single item can satisfy multiple goals. The current research shows that including an item in more than one goal-based category does not hinder consumer inferences provided that the goals of these categories do not conflict with each other. Importantly, we also find that presenting explicit attribute information (e.g., on packaging) that does not fit the goal-based label of the item's category is enough to tamper the category-based inferences documented in this research. This implies that manufacturers should take into account the category label under which an item will be displayed when designing its packaging.

In an era where the size of assortments is bigger than ever before, retailers are experimenting with different assortment organization types to better reflect consumers' decision processes and facilitate choice. The research reported in this article shows that such assortment decisions may have important effects on how consumers evaluate items. Since in most situations consumers who are choosing from an assortment do not have access to all relevant information about the items within the assortment – either because the information is not available or due to their limited time or cognitive capacity to process available information – it is important to bear in mind the impact of assortment organization on consumer decision making. In particular, this research underlines the importance of a category label as a central source of information from which consumers draw to make inferences about products. Given this importance, retailers and manufacturers would benefit from further research aimed at answering the complex interplay between assortment organization and consumer behavior.

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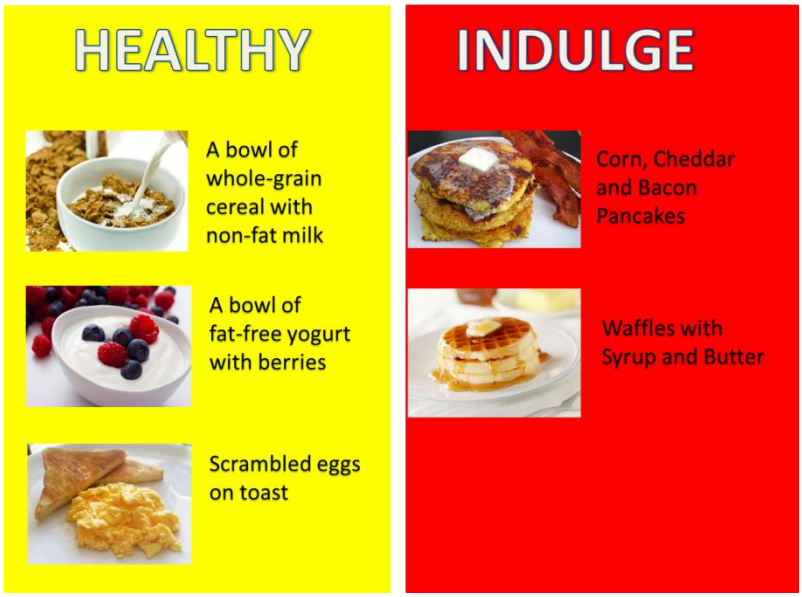
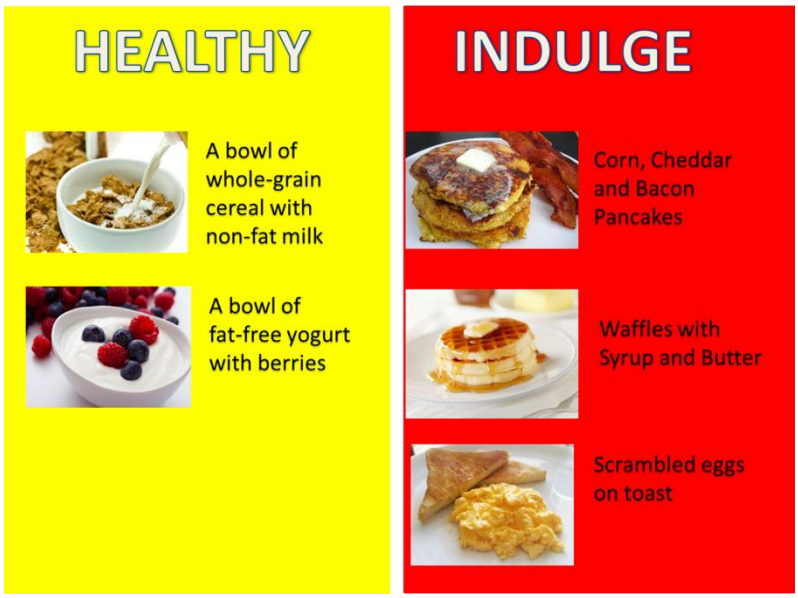
5.9 APPENDIX

APPENDIX A – STIMULI "BREAKFAST" EXPERIMENT 1





APPENDIX B – STIMULI EXPERIMENT 2

APPENDIX C – STIMULI EXPERIMENT 3

Beach & Relaxation destinations

PUNTA CANA (Dominican Rep.)

Number of Michelin 3- Star Restaurants:
0 restaurants

MALDIVES (Maldive Islands)

Number of Michelin 3- Star Restaurants:
0 restaurants

Food & Culture destinations

PARIS (France)

Number of Michelin 3- Star Restaurants:
10 restaurants

TOKYO (Japan)

Number of Michelin 3- Star Restaurants:
16 restaurants

BARCELONA (Spain)

Number of Michelin 3- Star Restaurants:
2 restaurants

Beach & Relaxation destinations

PUNTA CANA (Dominican Rep.)

Beaches: **20 miles**

MALDIVES (Maldive Islands)

Beaches: **8 miles**

Food & Culture destinations

PARIS (France)

Beaches: **0 miles**

TOKYO (Japan)

Beaches: **0 miles**

BARCELONA (Spain)

Beaches: **3 miles**

Beach & Relaxation destinations

PUNTA CANA (Dominican Rep.)

Number of Michelin 3- Star Restaurants:
0 restaurants

MALDIVES (Maldive Islands)

Number of Michelin 3- Star Restaurants:
0 restaurants

BARCELONA (Spain)

Number of Michelin 3- Star Restaurants:
2 restaurants

Food & Culture destinations

PARIS (France)

Number of Michelin 3- Star Restaurants:
10 restaurants

TOKYO (Japan)

Number of Michelin 3- Star Restaurants:
16 restaurants

6

CONCLUDING REMARKS

"Hindsight bias makes surprises vanish."

Daniel Kahneman (Kahneman 2011, p. 202)

At the heart of this dissertation lies the idea that consumers choose products not for their attributes per se, but for their ability to fulfill consumption goals. Put differently, attributes, and the particular combination of attributes within a product, provide a product its benefits and it is these benefits that are sought by consumers to satisfy their goals. This rather abstract idea can be translated into tangible marketing strategies such as organizing product assortments by goals rather than by attributes. The current dissertation illustrates that such goal-based assortments may have important downstream effects on consumers' perception of the assortment and the items it comprises, as well as on the choices they make from that assortment. In what

follows, we highlight the main findings of the four studies presented in this dissertation, discuss the implications of the results for marketing theory and practice and suggest potential avenues for future research.

To begin with, Study 1 (Chapter 2 - Increasing choice satisfaction through goal-based labeling) focused on the practice of labeling specific products with goal-based product names (e.g., a 'Family Holiday' vs. 'Night Out' camera). In this study, we used mountain bikes as stimulus category, a category for which it is easy to discriminate between experts and non-experts. By means of an online quasi-experiment we demonstrated that goal-based labeling increases choice satisfaction of novices. We further found that choice certainty fully mediates the positive effect of goal-based labeling on the choice satisfaction of inexperienced consumers. Thus, goal-based labels appear to boost inexperienced consumers' confidence in having made the right choice given the active goal. This, in turn, made these consumers more satisfied with that choice. A possible mediating effect of choice difficulty was not found. Although goal-based labels did lower choice difficulty for inexperienced consumers, this did not translate into higher choice satisfaction. A possible explanation for the absence of the hypothesized mediating effect of perceived choice difficulty is that satisfaction relates to the outcome of the choice, not the process. No choice-facilitating effect of goal-based labels was observed for expert consumers. This result is in line with the idea that experts are less guided by environmental cues like descriptive brand names since they have more elaborate cognitive product category representations that allow them to easily link attribute-bundles and levels to specific goals and process information at a 'deeper' attribute level (Alba and Hutchinson 1987; Russo and Johnson 1980).

Study 1 further showed that accurate and inaccurate labels lead novices to make similar choices, but (compared to accurate labels) inaccurate labels increase uncertainty and reduce satisfaction. This not-hypothesized finding suggests that goal-based labels seem to enable/motivate novices to process at a deeper level by also processing attribute information rather than the goal-based label alone. Since we find no evidence of a mere labeling effect on choice, we conclude that the goal-based information contained in the labels is a key component for the occurrence of a positive effect on satisfaction.

Study 1 contributes to the literature on simplifying choice by looking at assortment structure from a consumer perspective. While previous studies have focused on feature-based solutions to assortment organization (e.g., Gourville and Soman 2005; Mogilner, Rudnick, and Iyengar 2008), we start from goal-based choice theory (Van Osselaer and Janiszewski 2012; Van Osselaer et al. 2005) and demonstrate that goal-based labeling offers a consumer-based solution to simplify choice for novice consumers.

Since markets are increasingly getting overloaded by choice clutter, our findings are also of managerial value. We find that companies can optimize the buying experience of novice consumers by adding a goal-based branding layer to their product brands. In the marketplace, mountain bikes (but also many other products like computers and cameras) are often labeled with a rather technical or attribute-based product name. To illustrate, leading mountain bike brand *Trek* labels its bikes with names like 'Lush 29', 'Superfly FS', and 'X-Caliber'. Based on these names, it is difficult for consumers to infer which goal (i.e., for which type of

mountain bike situation) they best serve. Furthermore, attribute information – which is often available – might not help novice consumers since they do not have elaborate product category knowledge that links concrete attributes to goals such as usage contexts. Therefore, a goal-based label might be of great help to them.

Study 1, of course, is not without its limitations. The external validity of the presented conclusions is limited because only products from one product category were included as stimuli. Future research should aim to replicate current results for other product categories, other goals, and include multiple (possibly conflicting) goals. Also, it might be worthwhile to study what would happen if the goal-based labels employed by a manufacturer in its product portfolio are not in line with a consumer's active goal. Future research may further benefit from more precisely disentangling choice process and choice outcome by means of time measures, think aloud protocol, counts of arguments considered and physiological measures of effort.

Furthermore, future research might further examine the process by which goal-based labels affect choice and choice satisfaction. In Study 1 we only identified a single factor (choice certainty) that only partially mediated the effect of goal-based labels on satisfaction. This suggests that other factors might also be part of the underlying mechanism. Potentially interesting factors could be consumer specific (such as product involvement or task involvement) or related to the assortment itself (assortment size, product perceptions and inferential mechanisms).

Unlike Study 1, Study 2 (Chapter 3 - When goal-based assortments lead to goal-inconsistent choices) focuses on goal-based assortments at product category level. In particular, this study contrasts two ways of organizing a product category: by attributes (i.e., taxonomically) vs. by benefits (i.e., goal-based). To illustrate, a taxonomic product category calls for organizing a product category assortment (e.g., rental cars) by product type or by brand, whereas a goal-based approach would involve organizing the category in goal-based subcategories (e.g., 'Green' vs. 'Adrenaline' cars).

Based on intuition and in line with the findings of Study 1, one could expect that organizing an assortment by goals would increase the chance that a consumer chooses the option from the assortment that is most instrumental for their active goal. Study 2, however, showed that this prediction does not hold. In particular we found that, compared to randomly organized assortments and assortments organized by brand, consumers choosing from goal-based assortments are less likely to opt for the goal-maximizing choice option. We attribute this goal-inconsistency in choice to a similarity effect that occurs by grouping together items that serve a similar goal. Past research has indeed suggested that grouping together items by goals can make grouped items appear more similar to each other (Poynor Lamberton and Diehl 2013b; Ratneshwar et al. 2001). Study 2 confirmed this suggestion by demonstrating that grouped items in goal-based subcategories are perceived by consumers as being more equally instrumental for that goal. As a result of this increased similarity, consumers need to look for other grounds on which they can make their choice. Consequently, consumers might end up choosing an item that performs better on goal-irrelevant dimensions, but worse on goal-relevant dimensions.

These results have obvious practical implications for retailers and manufacturers. First of all, as a retailer it is crucial to understand how assortment organization – a central issue in assortment planning – affects consumer choice. Study 2 showed that retailers who organize their assortment in a goal-based way, might stimulate consumers to choose other items than the one that best satisfies their active goal. This suggests that retailers better avoid goal-based assortments if their highest-margin item is also the goal-maximizing item. On the other hand, when retailers want to push their store brands, goal-based assortments might be beneficial since this might lead consumers to perceive that the store brand is equally instrumental (or valuable) for goal fulfillment as a more expensive national brand (e.g., the category leader). In line with this, Poynor Lamberton and Diehl (2013) demonstrated that consumers are more likely to choose a less expensive item from goal-based as opposed to attribute-based assortments. The above also implies that it might be a suboptimal strategy for manufacturers to market items that score highest on goal-relevant dimensions but low on goal-irrelevant dimensions.

Study 2 adds to the literature streams of assortment organization and goal-based choice and categories. Assortment organization is often considered as a powerful instrument to nudge consumers' decision process (Thaler and Sunstein 2008). And although goal-based assortments might seem to steer people to choose the best possible option to achieve their goal, Study 2 showed that such assortments might have unexpected consequences. Furthermore, other factors such as assortment size, consumer expertise, and multiple goal activation might all have important effects on the findings of this study. Examining the whether and when these factors affect goal-inconsistency in choices from goal-based assortments is a fruitful avenue for further research.

As an important addition to the discussion of Study 2, we stress that the results could be explained differently. In particular, the same choice outcomes could occur not because of the presumed similarity effect of grouping items by goals, but by the effect different assortment organization formats might have on the choice process consumers adopt. Organizing a set of items by goals (i.e., goal-based instead of random) might stimulate consumers to choose in a sequential manner. That is, if the assortment organization readily provides consumers the subset of items that are relevant to their main goal, consumers might feel that by choosing within that subset they have already fulfilled that goal. As a result, for their final choice they might also take into account other, secondary goals and end up with a more balanced choice option. Future research might benefit from disentangling the effect of assortment organization on either the perceived similarity of grouped options or the choice process consumers adopt.

The findings so far stress the importance of understanding how assortment organizations affect consumers' perceptions of the items within an assortment. Yet, it is equally important to study how such assortment organizations affect perceptions of the assortment itself. This brings us to Study 3 (Chapter 4 - A closer look at the perceived variety of a goal- versus attribute-based assortment). Beyond the implications of goal-based assortments on choice, this study examines whether and how such assortments might affect consumers' perceptions of the variety offered. A fairly large body of research demonstrated that perceived

variety is an important factor in consumers' choice among assortments (for a review, see Chernev 2012). Nevertheless, research on how goal-based formats of organizing assortments affect its perceived variety remains sparse. In fact, only one recent study touches upon this issue and finds that – in general – perceived variety is lower in goal-based versus taxonomic assortments (Poynor Lamberton and Diehl 2013).

The objective of Study 3 was to build on this initial finding by Poynor Lamberton and Diehl (2013) and examine more closely how goal-based assortments affect variety perceptions. In line with the suggestions of Ratneshwar et al. (2001), this study showed how organizing a product category in goal-based subcategories increased perceived similarity of grouped items, yet decreased similarity between items of different subcategories compared to organizing that same assortment by attribute (e.g., product type). Put differently, organizing items by goals seems to perceptually push together grouped items while pulling apart ungrouped items.

To illustrate, consider a simple assortment of four wines: a red Pinot Noir (France), a red Bordeaux (France), a red Merlot (Chile) and a red Carmenère (Chile). Compared to a traditional taxonomic assortment which groups the wines by country-of-origin ('France': Pinot Noir & Bordeaux vs. 'Chile': Merlot & Carmenère), grouping the wines by food pairing goals ('White Meat': Pinot Noir (France) & Merlot (Chile) vs. 'Red Meat': Bordeaux (France) & Carmenère (Chile)) makes the grouped wines appear more similar to each other, but more distinct from the wines from the other group. This notion is in line with the research presented in chapter 2 where we found that grouping items by goal increases their goal-based similarity. Thus, the goal-based subcategory label not only increases the goal-based similarity of grouped items, but also stresses that these wines (e.g., wines to pair with red meat) are substantially different from the others (e.g., wines to pair with white meat) in meaningful ways; they serve different purposes.

This has important consequences for consumers' perception of the variety offered by a goal-based assortment. Following this distinction of within-subcategory and between-subcategory similarities, in Study 3 we split up perceptions of overall variety into its constitutive parts: within-subcategory and between-subcategory variety. The results showed that goal-based product assortments (relative to taxonomic product assortments) decrease variety perceptions within subcategories but increase variety perceptions between them. Thus, depending on the number of categories (and hence the extent of between-subcategory variety perceptions) and the number of items within a category (and hence the extent of within-category variety perceptions), overall variety perceptions were higher or lower in goal-based versus taxonomically organized assortments.

These findings contribute to the literature on assortment variety by underscoring the importance of considering within- and between-category variety perceptions instead of merely focusing on overall variety. The notion of within- and between-category similarities has been put forth in a number of studies in the field of psychology (e.g., Medin, Goldstone, and Gentner 1993; Tajfel and Wilkes 1963; Tversky 1977; Tversky and Gati 1978). Nevertheless, to our knowledge, it has not yet been adopted in marketing literature on perceived assortment variety. Note, however, that our findings are in line with the mere categorization effect (Mogilner,

Rudnick, and Iyengar 2008) which showed that increasing the number of subcategories within an assortment also increased consumers' perceptions of the variety offered by that assortment.

Also note that variety perceptions of assortments are complex judgments that might be affected by numerous other factors as well. In this research, we discriminate between two types of assortment organization: goal-based versus attribute-based. Nevertheless within these two types of organization there might be important differences that could affect variety perceptions. For example, complex categorization rules that take into account multiple attributes that are needed to deliver certain benefits that are needed to achieve a goal might lead to very different variety perceptions than when a single attribute can deliver those benefits. Future research might examine the conditions under which type of assortment organization affects overall perceived variety as well as within- and between-subcategory variety perceptions.

Finally, Study 4 (Chapter 5 - Inference making in goal-based assortments: the role of similarity to the ideal) complements the previous studies by examining how goal-based category labels affect the inferences consumers make about unknown, unobservable properties of the items within an assortment. Previous research on category-based deduction testifies to the importance of category labels in consumers' inferential reasoning. To illustrate, a category label such as country-of-origin heavily influences consumers' perceptions of a product: learning that a certain car is made in Germany will lead consumers to generate very different inferences or conclusions about that car then when it was made in Italy.

General categorization principles seem to govern such category-based inferences. In particular, a (taxonomic) category can be conceptualized as a cognitive representation of the typical attributes that each item within that category should have. By definition, category members are highly similar to each other on surface level (i.e., they possess much of the same attributes). Therefore, providing a category label might offer consumers a reliable cue for inferring that an item should possess (at least some) of these attributes. In goal-derived categories, however, items are not necessarily physically similar and a goal-based category label might therefore not be informative about the typical attributes of category members. Nevertheless, Study 4 showed that consumers do make inferences from goal-based labels, but only on ideals, i.e., qualities that are needed for goal attainment. To illustrate, consumers inferred that the same cereal bar contained less calories when it was part of a 'healthy snacking' goal-based subcategory then when it belonged to an 'indulgent snacking' subcategory.

As in the studies 2 and 3, we showed that a similarity effect underlies these findings. In particular, the results demonstrated that assigning an item (e.g., a cereal bar) to a goal-based subcategory (e.g., 'healthy snacking') increased its similarity to an ideal item for goal fulfillment (e.g., a fruit salad), which might subsequently lead consumers to infer that it should also possess more of its ideal qualities. Nevertheless, such inferences were attenuated when conflicting information was made available about the nature of the item. That is, when the item simultaneously belonged to multiple, somewhat conflicting goal-based subcategories (e.g., 'healthy' and 'indulgent') or when attribute information is made available that conflicts with the goal-based label, inferences towards the ideal for goal fulfillment were impeded. These findings enrich our

understanding of category-based inferences. Whereas the current literature on such inferences shows that a (taxonomic or nominal) category label affects consumers' inferences about the presence and/or absence of certain attributes and features, this study demonstrates that goal-based category labels drive inferences about how much of an ideal quality an item possesses.

Across these four studies we have implicitly assumed that consumers' choice process is compensatory. According to this view, consumers evaluate items on all attributes and make a decision on the value of each item based on the combination of these attributes. In this sense, valuable attributes can compensate (or make up) for less valuable attributes. We argued that this process might be cumbersome and that goal-based labels, and goal-based assortments in general, might be useful – at least for some consumers – as a shortcut for bypassing this process.

Nevertheless, consumers might also use a different choice process, which is noncompensatory. Such noncompensatory choice models contend that consumers can reject items based on one or more attributes that are negatively evaluated. For example, within an assortment of wines, a consumer might a priori exclude all French wines from consideration, simply because (s)he rejects the attribute 'French'. Whereas in compensatory models, other attributes (like price, taste, grape, etc.) might be able to compensate for that negatively evaluated attribute, noncompensatory models do not offer that possibility.

This contrast between choice models raises the question how the general conclusions of this dissertation would differ if we would assume a noncompensatory choice model instead of a compensatory one. Since we did not explicitly consider compensatory versus noncompensatory decision making as an explanatory variable in our studies, it might be a fruitful avenue for future research to address this. In this context, it might be very plausible that some noncompensatory attributes – which are not directly related to consumers' primary goal – might lead consumers to disregard goal-based assortment organizations and category labels and first create a consideration set first based on those attributes, after which a choice is made within this set based on each item's value for attaining that primary goal. Alternatively, consumers' might give priority to the goal for creating a consideration set, after which they make a final choice based on the presence or absence of noncompensatory attributes in items' within this set.

At a more theoretical level, it could be that noncompensatory decision making is – to some extent – similar to a goal-based decision model. In particular, if consumers find the presence of a certain attribute (e.g., a car needs to be German) so important that it determines whether or not an item is considered in the first place, this attribute-presence might be considered as a choice goal in itself. It could also be that some attributes are cognitively hardwired to certain benefits (e.g., German = quality, Volvo = safety, etc.) that attributes in themselves are a shortcut to goal achievement for consumers – much like goal-based category labels are. Further examining this hierarchy of attributes < benefits < goals in the context of compensatory versus noncompensatory choice is an important avenue for future research.

Taken together, the four studies presented in this dissertation testify to the importance of category labels for consumers. Categorization – or the basic activity of organizing objects into categories – is a fundamental cognitive activity. This is reflected in the fact that we have organized our environment, including the marketplace, in such a way that they reflect categories. Traditionally, research has focused on (natural) taxonomic categories since these represent the product categories people use. Nevertheless, when people are shopping, they often want to solve a problem or satisfy a need (i.e., they are motivated to fulfill a goal) for which they have to derive a goal-specific category with objects from different product categories that are all instrumental for that goal.

Assortment organization is – at least to some extent – under a marketer's control. Therefore, marketers could use the findings of this dissertation to strategically alter their assortment organization to better align with how their customers choose, while keeping in mind the downstream effects on consumers' choice, choice process, variety perceptions and inferences as discussed in this dissertation.

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